THE LANCET

A Journal of British and Foreign Medicine, Surgery, Obstetrics, Physiology, Chemistry, Pharmacology, Public Health, and News.

Telegrams—LANCET, WESTRAND LONDON *Telephones*—GERRARD 4314 & 4315 *Offices*—423, Strand, London, W.C.2

No. V. OF VOL. II., 1925. **LONDON, SATURDAY, AUGUST 1, 1925.** **Pp. 112—Price 1s.**

No. 5318. Vol. CCIX. Founded 1823. Registered as a Newspaper. Published Weekly. Annual Subscription Inland £2 2s. Abroad £2 10s.

MODERN TECHNIQUE IN TREATMENT.

VOLUME ONE IS NOW READY.

PRICE 10s. 6D. NET.

PUBLISHED BY *The Lancet*, 1, Bedford-street, London.

Agents for India: Butterworth & Co.

ON THE BREAST.

By DUNCAN C. L. FITZWILLIAMS, C.M.G., M.D., Ch.M., F.R.C.S. Ed. and Eng.

Royal 8vo. 456 pp. 2 Plates, 166 Illustrations. 30s. net.

LANCET.—"The book is packed with accurate clinical observations and bears evidence throughout of extensive clinical experience and wide reading on the part of the author."

Wm. Heinemann (Medical Books) Ltd., 20, Bedford-street, London, W.C.2.

OXFORD MEDICAL PUBLICATIONS.

SEE PAGE 3.

(Now Ready). Medium 8vo. 7s. 6d. net.

THE ADVANCE OF ORTHOPÆDIC SURGERY.

By A. H. TUBBY, C.B., C.M.G., M.S.

"This book contains so much that is new and of importance that its perusal will amply repay the medical reader."—GLAS. MED. JOUR.

London: H. K. Lewis & Co. Ltd., 28 Gower Place, W.C. 1.

TISSUE CULTURE.

STUDIES IN EXPERIMENTAL MORPHOLOGY AND GENERAL PHYSIOLOGY OF TISSUE CELLS IN VITRO.

By ALBERT FISCHER, M.D.

With an Introduction by ALEXIS CARREL, L.B., B.S., M.D., Sc.D.

Illustrated. 21s. net.

This book will be of particular value to those who desire to use the modern techniques in tissue culture, and will contribute markedly to the progression of an important method of investigation.

William Heinemann (Medical Books) Ltd., 20, Bedford-street, London, W.C.2.

SYPHILIS AND VENEREAL DISEASES.

By C. F. MARSHALL, M.Sc., M.D., F.R.C.S.Eng.; and E. G. FFRENCH, M.D., F.R.C.S. Edin., M.R.C.P. Lond., Lieut.-Col. R.A.M.C. (Ret.), late O.C. Military Hospital, Rochester Row, S.W.

Fourth Edition, revised and illustrated with 7 Coloured Plates and numerous Figures. Price 15s.

London: Baillière, Tindall & Cox, 8, Henrietta-st., Covent Garden.

BY Lieut.-Col. ROBERT HENRY ELLIOT,

M.D., B.S. Lond., F.R.C.S. Eng., I.M.S. retd.

A TREATISE ON GLAUCOMA.

2nd Edition, Revised and Enlarged. 30s. net.

TROPICAL OPHTHALMOLOGY.

With 7 Plates and 117 Illustrations. 31s. 6d. net.

Spanish and French Editions, 1922.

THE CARE OF EYE CASES: 12s. 6d. net.

A MANUAL FOR NURSES, PRACTITIONERS, AND STUDENTS.

Oxford University Press.

GLAUCOMA: 4s. net.

A HANDBOOK FOR THE GENERAL PRACTITIONER.

THE INDIAN OPERATION OF COUCHING FOR CATARACT. 7s. 6d. net.

H. K. Lewis and Co. Ltd.

Just Published. Crown 8vo. 7s. 6d. net; postage 5d.

CHRONIC DISEASE.

A Working Hypothesis.

By E. BACH, M.B., B.S., D.P.H., and C. E. WHEELER, M.D., B.Sc., D.P.H.

London: H. K. Lewis & Co. Ltd., 136 Gower-street, W.C.1.

Just Published. Crown 8vo. 3s. 6d. net; postage 5d.

ALCOHOL IN MEDICAL PRACTICE.

With a Chapter on the Evolution of Medical Opinion.

By COURTENAY C. WEEKS, M.R.C.S., L.R.C.P.

London: H. K. Lewis & Co. Ltd., 136 Gower-street, W.C.1.

Now Ready. Fifth Edition. Thoroughly Revised. Pp. v.+251. With Coloured Plate and 98 other Illus. Price 8s. 6d.; postage 6d.

REFRACTION OF THE EYE.

By ERNEST CLARKE, M.D., F.R.C.S. Eng.

"One of the best, if not THE best, book on the subject in this or any other language."—EDINBURGH MEDICAL JOURNAL.

Baillière, Tindall & Cox, 8, Henrietta St., Covent Garden, W.C.2.

DR. MARIE STOPES' IMPORTANT WORKS.

CONTRACEPTION

(BIRTH CONTROL).

ITS THEORY, HISTORY, AND PRACTICE.

A MANUAL FOR THE MEDICAL AND LEGAL PROFESSIONS.

With Introductions by Sir WILLIAM BAYLISS, M.A., D.Sc. Oxon. and others.

Medical Times.—"The book is unique and marks a new era."

The Lancet.—"Much of the evidence contained in the book is quite unobtainable elsewhere."

Demy 8vo. Cloth. Pp. xxiv. + 416. With 4 full-page plates. 12s. 6d. net; post free inland 13s. 3d., abroad 14s.

"THE FIRST FIVE THOUSAND."

BEING THE FIRST REPORT OF THE FIRST BRITISH BIRTH CONTROL CLINIC.

Giving unique Statistical, Medical, and other data about 5000 Birth Control cases and containing new observations of the utmost importance to Medical Practitioners.

Paper, 2s. 6d. net; post free 2s. 8d.

London: John Bale, Sons & Danielsson, Limited, 83-91, Great Titchfield-street, Oxford-street, W. 1.

Third Edition. With many Illustrations. 12s. 9d. net.

TREATMENT OF DISEASES OF THE SKIN.

By KNOWSLEY SIBLEY, M.D.Camb.

London: Edward Arnold & Co., 41 and 43, Maddox-street, W. 1.

OXFORD MEDICAL PUBLICATIONS.

ARTIFICIAL SUNLIGHT

AND ITS THERAPEUTIC USES.

By F. HOWARD HUMPHRIS, M.D., F.R.C.P., Author of "ELECTROTHERAPEUTICS for PRACTITIONERS."

"Any medical man wanting a brief but comprehensive sketch of this subject could not do better than make use of this book."—THE LANCET.

Second Edition. Demy 8vo. Illustrated. Price 8s. 6d. net.

Oxford University Press.

Humphrey Milford. Amen House, London, E.C.4.

---

10 Illustrations. 7s. 6d. net; postage 6d.

THE DIABETIC LIFE:

ITS CONTROL BY DIET AND INSULIN.

By R. D. LAWRENCE, M.A., M.D., Chemical Pathologist, King's College Hospital.

London: J. & A. Churchill, 7, Great Marlborough-street, W.1.

BY CHARLES J. HEATH, F.R.C.S.,

Consulting Aural Surgeon, Metropolitan Asylums Board; late Surgeon, Throat Hospital, Golden Square, London.

OTITIS MEDIA (MASTOID DISEASE):

ITS SYMPTOMS, DIAGNOSIS, PROGNOSIS AND TREATMENT BY MODERN METHODS, thus saving the hearing of the discharging ear with perforated drumhead.

Price 5s. net.

"We have no hesitation in describing Heath's paper as epoch-making."—ST. BARTHOLOMEW'S HOSPITAL JOURNAL.

"This work is recommended to specialists and even to those who are not."—L'OTO RHINO LARYNGOLOGIA INTERNATIONALE.

Baillière, Tindall & Cox, 8, Henrietta-street, London, W.C.2.

THE CLAYTON ANILINE CO., LTD.,

Pharmaceutical Department, 68½, Upper Thames Street, London, E.C. 4,

have pleasure in announcing to physicians that they are in a position to supply

AGOMENSIN and SISTOMENSIN

(LIPAMIN) (LUTEO-LIPOID)

the "dissociated" principles of the ovarian corpus luteum referred to in an article published in the Winter Number, 1924, of the "Journal of Obstetrics and Gynæcology of the British Empire," p. 591.

INDICATIONS

AGOMENSIN	*SISTOMENSIN*
AMENORRHŒA	**DYSMENORRHŒA**
OÖPHORECTOMY	**MENORRHAGIA**
STERILITY	**METRORRHAGIA**

PACKAGES

Tablets (⅓ grain) 20.	Tablets (⅕ grain) 40.
Ampoules (⅔ grain) 5 and 20.	Ampoules (⅘ grain) 5 and 20.

Clinical reports on request.

Use LESLIES ZŌPLA Plaster

FOR PERFECT RESULTS

Tenaciously Self-adhesive, really Non-irritating, Antiseptic.

IT STANDS THE STRAIN

ON LIGHT AND HEAVY CLOTHS, WHITE OR FLESH. ALSO ON HOLLAND. ALL WIDTHS AND SIZES.

Write for Samples.

USE ALSO OUR HOLLAND STRAPPING.

LESLIES LTD., High Street, Walthamstow, LONDON, E.17.

THE LANCET

No. 5318. LONDON, SATURDAY, AUGUST 1, 1925. CCIX.

CONTENTS

THE WHOLE OF THE LITERARY MATTER IN THE LANCET IS COPYRIGHT

AN ADDRESS on Personality, Magic, and Medicine. By Prof. GEORGE M. ROBERTSON, M.D., F.R.C.P. 213

THE CROONIAN LECTURES on Some Disorders of Motility and of Muscle Tone, with Special Reference to the Corpus Striatum. By S. A. KINNIER WILSON, M.D., B.Sc., F.R.C.P. Lecture IV.—(*Illustrated.*)—(*To be concluded*) 215

CLINICAL AND LABORATORY NOTES.

A Case of Acute Intestinal Obstruction due to the Presence of a Drainage-Tube Left in the Peritoneal Cavity. By R. LESTER WILLIAMS, M.B., B.Ch., F.R.C.S. 219

Vaso-Neurosis Caused by Toxic Idiopathy to Milk in a Child. By HECTOR M. WALKER, M.D. 220

A Loose Body in the Tunica Vaginalis. By A. ERNEST SAWDAY, M.B., B.S. 220

MEDICAL SOCIETIES.

Medico-Psychological Association: Psychological Implications of Encephalitis Lethargica 221

Edinburgh Medico-Chirurgical Society: The Pituitary 222

Society of Superintendents of Tuberculosis Institutions: Pleurisy 223

REVIEWS AND NOTICES OF BOOKS.

Surgical Treatment of Pulmonary and Pleural Tuberculosis. By J. Gravesen, M.D. 228

La Tétanie Infantile. By R. A. Turpin 229

Manual on Midwifery. By Thomas Watts Eden, M.D., and Eardley Holland, M.D. 229

Medical Electricity for Nurses. By Harold Wigg 230

Latin on the Direct Method. By W. H. D. Rouse, M.A., and R. B. Appleton, M.A. 230

Journal of Pathology and Bacteriology 230

LEADING ARTICLES.

HOSPITAL ADMINISTRATION IN ITS BROADER OUTLOOK 231

CHOLECYSTOGRAPHY 232

LABORATORY RESEARCH IN MENTAL DISEASE 232

ANNOTATIONS.

Hygiene in Factories 233

The Plural of Virus 234

A Pathfinder in Medicine .. 234

Oliguria Following Blood Transfusion 235

Three Hospital Pharmacopœias 235

Science and Missionary Work 235

"Colds" 236

Portrait of Sir John MacAlister 236

Retirement of Sir William Hamer 236

MODERN TECHNIQUE IN TREATMENT.

CXXXIII.—The Treatment of Irregular Teeth in Adolescence. By G. NORTHCROFT, O. B. E., L.D.S., D.D.S. 237

SPECIAL ARTICLES.

Some General Reflections on Public Health Administration. By J. H. L. CUMPSTON, M.D., D.P.H. III.—The Private Health Agencies 238

British Medical Association. Annual Meeting at Bath: Representative Meeting: Memorandum on Coroners' Law.—Representation on the G.M.C. Proposed Factory Medical Service.—Drug Addiction.—Nursing Homes Registration Bill 244

Annual General Meeting 247

Section of Pathology and Bacteriology: Filter-Passing Viruses 247

Section of Medical Sociology: Standardisation and Purity of Milk .. 249

Royal Commission on National Health Insurance: Evidence of Opticians' Associations . 224

Royal Sanitary Institute: Congress at Edinburgh—(*To be continued*) 226

Paris: The Recrudescence of Alcoholism.—Encephalitis and Vaccination against Smallpox.—Insulin in Non-Diabetics.—French Views on Rickets.—The Comparative Action of Atropine and the Total Alkaloids of Belladonna. 240

Vienna: Proposed Alterations in the Medical Curriculum. — Insulin Treatment in Cases of Extreme Leanness.—Increase of Saturnism in Austria 241

PUBLIC HEALTH SERVICES.

School Medical Service: Bristol.—Warrington.—Stoke-on-Trent 242

Infectious Disease in England and Wales .. 243

CORRESPONDENCE.

Disablement from Chronic Rheumatism (Dr. James Mennell) 251

Anuric Diabetic Coma (Mr. R. L. Paramore, Dr. C. Gray Imrie) 251

Tumors and Cancers: A Complaint (Dr. Nolan Daly) 252

The Remuneration of R.A.M.C. Officers (Sir John Herbert Parsons, F.R.S.) 252

An Acknowledgment (Messrs. W. Green and Son, Ltd.) 252

Hedonal (Dr. John Donald) 262

OBITUARY.

Harry Drinkwater, M.D., F.R.S. 253

William Montagu Venables Williams, L.R.C.P., D.P.H. 253

The late Dr. Harold Clifford 253

Evan Evans, M.B., F.R.C.S. 253

Mary Eva Hastings Morris, M.D. 253

Richard Henry Griffith, L.R.C.P. 253

THE SERVICES.

Royal Naval Medical Service.—Royal Army Medical Corps.—Royal Air Force.—Deaths in the Services 254

INDEX NOTICE.

THE LANCET, Vol. I., 1925 261

MEDICAL NEWS.

University of London 254

University of Edinburgh .. 254

Royal College of Surgeons of Edinburgh 255

The late Dr. J. T. Williams 214

The Prize-giving at Epsom College 220

Women's Holiday Fund .. 238

Fellowship of Medicine and Post-Graduate Association 243

Work of Pensions Ministry 253

School for Pre-Tuberculous Children 255

Harrogate Royal Bath Hospital 255

Finance of the General Nursing Council 255

Registered Nurses 255

Cancer Research in Manchester 250

Cancer Research in Yorkshire 255

Medal Awarded to Blood Donor 255

Dublin Hospitals 255

Ban on Unvaccinated Seamen by U.S.A. 255

First International Malaria Congress 255

University of Paris 256

Birth Control Clinic 256

Guy's Hospital: A Year's Work 256

Donations and Bequests .. 256

PARLIAMENTARY INTELLIGENCE.

House of Lords: The Public Health Bill.—Dangerous Drugs Bill .. 256

House of Commons: School Medical Services.—Lead Poisoning and the Pottery Industry.—Preservatives in Food.—Value of Tuberculin Tests.—Therapeutic Substances Bill.—Diseases of Animals Bill.—Spahlinger Treatment. — Scientific Research.—Colonial Medical Services.—Miners' Nystagmus.—Pay and Allowance of the R.A.M.C. 257

NOTES, COMMENTS, AND ABSTRACTS.

Poisoning by Shoe Dyes ... 262

Health Conditions in Hong-Kong 262

An Improved Cycle Saddle 262

Social Origin of Prostitutes in Moscow 262

Medical Diary 260

Appointments.—Vacancies 261

Births, Marriages, Deaths 261

THE LANCET EXTRA NUMBERS

No. 1.

MODERN METHODS IN ABNORMAL AND DIFFICULT LABOUR.

Demy 4to. 144 pages. With 10 Plates (4 Coloured) and 73 Illustrations in the Text.

To the ANNUAL SUBSCRIBER to THE LANCET this Extra Number will be supplied a t a nominal price of 6s. 6d. net, post free Inland; Abroad 6s. 9d. The price to Non-subscribers is 12s. 6d. net, post free Inland; Abroad 12s. 9d.

THE LANCET OFFICE, 423, Strand and 1, Bedford Street, London, W.C. 2.

JUST PUBLISHED.

A NEW EDITION (3rd).

THE MECHANISM and GRAPHIC REGISTRATION of the HEART BEAT

By SIR THOMAS LEWIS.

Price 50/- net. Postage 1/-.

Specimen pages and abridged list of contents post free

SHAW & SONS, LTD., Medical Publishers,
7, 8 & 9, Fetter Lane, LONDON, E.C. 4.

Seeking a School

Schools are described and illustrated in the

SCHOOL FINDER

All England Edition, free and post free.

Call, write or 'phone for same with your requirements to

Mr. JENNINGS ("Lancet"), 23, HAYMARKET,
Gerrard 8682. NO CHARGES. S.W.1

HYGIENE AND PUBLIC HEALTH

WITH SPECIAL REFERENCE TO THE TROPICS.

By BIRENDRA NATH GHOSH, F.R.F.P.S. (Glasg.), Examiner in Hygiene, University of Calcutta and State Medical Faculty of Bengal.

Crown 8vo. Full Cloth pp. 586. Illst. 99. Price Rs.6. or 9s. 6d. net.

A valuable book for Students and vade mecum for practitioners.

Handbook of PHARMACOLOGY

INCLUDING MATERIA MEDICA.

By B. N. GHOSH, F.R.F.P.S. (Glasg.), Examiner in Pharmacology, University of Calcutta; Editor Ghosh's Materia Medica and Therapeutics.

F'cap 8vo. Full Cloth, 396—xii. Price Rs.4 or 6s. 6d. net.

SCIENTIFIC PUBLISHING CO., CALCUTTA.
Post Box—7890.
LONDON AGENTS:—SIMPKIN AND MARSHALL.

STAMMERING

W. J. KETLEY, "Tarrangower," Brondesbury, N.W.6

(Telephone: Willesden 435.)

30 years colleague of late B. BESLEY, Brampton Park, Huntingdon

Those interested in the subject should write for his book, which will be sent post free.

STAMMERING, SPEECH DEFECTS.

BEHNKE METHOD. Estab. 1882. CASES, non-resident, treated at 39, Earl's Court Square, S.W.5, and, in residence, in the Summer holidays at Miss Behnke's house on the Chilterns.

"Pre-eminent success in the education and treatment of stammering and other speech defects."—*The Times.*
"Thoroughly physiological principles."—*The Lancet.*
"The method is scientifically correct and perfectly effective."
Guy's Hospital Gazette.

"STAMMERING, CLEFT PALATE, SPEECH, LISPING." 3s. 9d.
of Miss BEHNKE, 39, Earl's Court Square, S.W.5.

TRUSS MAKERS.

MATTHEWS BROS., 10, New Oxford Street, London, W.C.1.
Established 1840. Telephone: Museum 1017.
PERSONAL ATTENTION GIVEN TO ALL CASES.
DIFFICULT CASES A SPECIALITY

THE BRITISH PHARMACEUTICAL CODEX

Published by Direction of the Council of the Pharmaceutical Society of Great Britain.

THIS standard work contains upwards of 1100 monographs on chemicals, drugs, and remedial agents. Characters, tests, methods of manufacture, and, in the case of drugs, the description of the active principles, are clearly set out.

It has a formulary of 2400 medicinal preparations,

to each of which is attached any note considered to be necessary for informing the medical man as to its therapeutic action. The pharmacological action of remedies has been fully extended in accordance with the latest development of medical research. All the newer medicaments are fully dealt with. A list of abbreviations of the full Latin names of drugs and preparations has recently been added as a supplement.

There is a very complete Pharmacological and Therapeutic Index, followed by an Index containing upwards of 15,000 entries.

PRESS OPINIONS.

"The account of the actions and uses of the drugs has been very carefully prepared, and all the most recent information has been incorporated, so that the Codex is, amongst other things, practically a textbook of pharmacology and therapeutics."—*THE BRITISH MEDICAL JOURNAL.*

"The Index is a marvel of completeness, and the Codex, 1923, forms a work of reference of great value and accuracy."—*THE LANCET.*

Price Thirty Shillings (Net). Postage 9d.

THE PHARMACEUTICAL PRESS, 17, Bloomsbury Square, London, W.C.1

JUST PUBLISHED. SEVENTH EDITION. Fully Revised and Enlarged. Crown 8vo. 680 pp. With 164 Illustrations (some coloured). **17s. 6d.** *net; postage 6d.*

SYNOPSIS OF SURGERY

For Practitioners and Students.

By ERNEST W. HEY GROVES, M.S., M.D., B.Sc. (Lond.), F.R.C.S. (Eng.).

Surg., Bristol General Hosp.; Prof. of Surg., University of Bristol; Examiner in Surg., Universities of London, Liverpool, Leeds and Sheffield.

"This synopsis of surgery has had a wide sale, and it deserves thoroughly all the success it has attained."—LANCET.

"Among the best of its kind, and the author is to be congratulated on its readableness, its lucidity, and its fullness."—BRITISH MEDICAL JOURNAL.

London: SIMPKIN & CO. Ltd. Bristol: JOHN WRIGHT & SONS Ltd.

An Address

ON

PERSONALITY, MAGIC, AND MEDICINE.

Delivered before the University of Edinburgh at the Graduation Ceremony, July 24th, 1925,

BY GEORGE M. ROBERTSON, M.D.,
F.R.C.P. EDIN.,
PROFESSOR OF PSYCHIATRY IN THE UNIVERSITY OF EDINBURGH.

VICE-CHANCELLOR,—My first duty is a very pleasant one. It is to congratulate those who have to-day achieved the high honour of becoming graduates of this University. In a short time many will be engaged in practising medicine, and others will have scattered to distant parts of our wide Empire. In the name of the University, I wish you all God-speed! Your course of professional study has been a long and arduous one, and during it you "scorned delights and lived laborious days." Do not take this too literally, for Promotors, like poets, enjoy a certain licence. I have no doubt that many of you, without detriment to your studies, have found time "to sport with Amaryllis in the shade." Gone, alas! are "the tangles of Neæra's hair." Since Milton wrote these lines fashions have changed.

EXAMINATIONS AND PERSONALITY.

You have all known what it is to suffer under the dark shadow of professional examinations. Such anxiety is a deadly poison to intellectual effort, but you have found an antidote in the magic of the Vice-Chancellor's touch, and of the cabalistic words which he has pronounced over every graduate. These graduation rites, however, are much inferior in picturesqueness and romance to those of a bygone age. A thousand years ago, at the famous medical school of Salerno, the Chancellor, or Rector, placed a crown of laurel on the brows of the successful graduate. Then he placed a ring on the graduate's finger. And finally, to mark the climax of the proceedings, the learned professors kissed the graduate. Even in those far-off days there were lady medicals!

No one has a good word to say about examinations. They are disliked by the professor who examines only less than by the student who is examined. They seem to be a sort of old-man-of-the-sea, of Chinese descent, who has fastened himself on the shoulders of our academic life. The Chancellor of the University, Lord Balfour, calls them "soul-killing institutions, bad for the teacher and bad for the taught." Now, if they are absolutely necessary in order to test your fitness for the practice of medicine, is it not strange that no test is applied to that which is the master-key to success as a physician—namely, "personality?" It is difficult to say what this personality is.

Personality is described by some in poetical language as personal magnetism. By others it is regarded as a miraculous gift of divine origin, the gift of healing. We are assured on the testimony of good people, like bishops, that there are persons, quite unequipped with any medical knowledge, indeed one might correctly say unhampered by any medical knowledge, who work miracles of healing. Such gifted beings are called "healers" in order to differentiate them from medical men fashioned of common clay, whose little learning has been laboriously acquired, and whose power of healing, unlike theirs, is subject to definite limitations. The difference in the methods employed by the healer and by the doctor is that which exists between magic and science. As the philosophy of healing is obscure let us investigate for a few minutes the problems connected with magic and medicine, giving, of course, the place of honour to magic, by right of seniority.

There is no Chair of Magic in the University of Edinburgh. This is most unfortunate, because, a knowledge of the history of magic helps us to understand the development of the human mind and also of science. Who can tell what chemistry owes to the search for the Philosopher's Stone—and pharmacology to the pursuit of the Elixir of Life? The Earl of Gowrie, who was killed in 1600, studied magic at Padua, but whether he did so in intra-mural or extra-mural classes we are not told. Sir Walter Scott, however, informs us that at the University of Toledo there was a Chair of Necromancy. Although there is no special Chair of Magic in Edinburgh, this important subject probably survives in one or another of the existing chairs. In the Faculty of Arts, the Chair of Natural Philosophy includes much that would have been regarded at one time as magic. Consider the applications of electricity alone. Last year when Wembley was opened thousands of persons in Princes-street Gardens heard a voice from the clouds repeating the Lord's Prayer, and then another voice, that of the King, addressing the people. Had King James VI., who founded this University, been present on this occasion, he would most certainly have regarded these as manifestations of a magical character, for he held strong views on witches and witchcraft.

MAGIC IN THE MEDICAL CLINIC.

In the Faculty of Medicine magic under a disguise is to be found. The preservation of life by insulin and the painless sleep of chloroform are in a sense magical. The protection from typhoid of millions of our fighting men during the war was in a sense as magical as the action of Moses when he made a serpent of brass, and it came to pass that all who beheld the serpent lived. Magic consists not only in the performance of rites invoking occult agencies, not only in the employment of materials possessing supernatural power and virtue, but also in a certain habit or attitude of mind towards inexplicable phenomena. Now, there exists to-day a curious and most amazing difference in the way that people have of looking, on the one hand, at phenomena of a physical kind, and on the other, at phenomena connected with the treatment of disease, a distinction actually fostered by the Church. No educated person now believes that the applications of physics are magical. They merely illustrate the progressive unveiling of the forces of nature and their subjugation to the uses of mankind. But it is not so with regard to the employment of remedies in disease. The element of magic in this sphere has never disappeared. No theory of disease is too fantastic, no line of treatment too futile to be accepted even by the most cultured. The sick person has some excuse for his actions and beliefs as he is never at his best; he is always off colour. He is more emotional and more suggestible. He is an easy prey to fears of ill-health, and he clutches eagerly at any remedy that chance brings within his reach. His mind is in an ideal condition to be worked on by magic. In colloquial language, "he is simply asking for it."

Let us see how readily the symptoms of disease lend themselves to treatment by magical methods. However unpleasant symptoms may be to the patient, almost all pass away naturally in course of time. And, if we exclude physical conditions, such as broken bones, we find that symptoms are almost exclusively mental. Pain is the basis of every symptom; malaise and discomfort are merely lesser varieties of it. And pain is a simple state of mind, just like the sensation of colour. It seems to be felt in a particular region of the body, just as colour seems to be the property of an external object, but both the sensation of pain and the sensation of colour are experienced within the brain and in the mind. Because of this localisation of

sensation within the brain, pain may still seem to be felt in the foot, although the whole leg has been amputated.

Pain is sometimes called real and sometimes imaginary, but to the patient both forms are real and both forms are amenable to treatment by mental suggestion, whether magical or otherwise. Toothache, for example, due to an organic cause, such as the decay of a tooth, is of course "real" pain, as we can all vouch for, yet it sometimes happens that when the hand of a patient suffering from toothache touches the dentist's front door bell all pain suddenly vanishes. Suppose now that a patient desires treatment of a magical kind. He may go to a Christian Scientist or to a Spiritual Healer; he may consult a plausible charlatan; or he may seek the vendor of a secret nostrum. In many cases he will benefit: and why not? The majority of symptoms pass away spontaneously; the treatment he receives is mental and therefore suits the symptoms exactly: mystery is invoked and this appeals to the superstitious elements lying latent in the patient's mind; and lastly, the patient comes with a child-like faith in the treatment for which he asks. As honest seekers after the truth we must face these facts. Look at Christian Science and its incredible development in America. It is a very simple therapeutic system, from which diagnosis is excluded, and it employs one remedy. Painfully inadequate as it seems to us, it has succeeded in founding cathedrals and in comforting millions. It has built 74 churches in this country and hundreds in America. Would that some of the money thus subscribed by grateful patients had found its way into the empty coffers of this University! Why do we not receive this grateful help? Is it because we have concerted healing into a cold science instead of leaving it an impressive mystery and a passionate faith? For it has passed through those phases. Have we like Martha been careful and troubled about many things, material, but missed the one thing, psychic, that is needful? Men and women hunger after the mystic and the wonderful; they are just big children in matters connected with illness; and their craving for miraculous cures will not cease till the progress of the science of medicine has rendered such cures superfluous.

The patient may consult a regular practitioner of medicine, and what follows? Almost inevitably the doctor will prescribe certain vegetable or mineral products, and the patient will derive benefit from his prescription. Is this almost exclusive reliance on the physical action of drugs, when we know to what an extent symptoms are mental, either logical or scientific? How much of it is due to a mere desire to gratify the patient's faith in medicine out of a bottle? Or is it unconsciously derived from the pursuit of the "elixir of life"? We all know that traditions die hard, as witness the obsolete prayer to Jupiter, concealed in the symbol that heads our prescriptions. Drugs undoubtedly possess pharmacological actions which are invaluable, as, for example, the effect of quinine in malaria, but symptoms are mainly mental, and medicines largely depend for the benefits they confer on the confidence of the patient in the physician and faith in his prescription. If this be so, then the drug treatment of minor ailments does not differ so very much from those other forms of treatment that consist merely of mental suggestion, though called by another name.

THE POWER OF THE MIND.

What distinguishes the doctor from the healer is his undeviating rationalism. His recognition of the mental element in disease, whether as a cause, as a symptom, or as a cure, is deficient. He has a horror of introducing mystery into his treatment, even though his patients have not yet emerged from the darkness of superstition, and his practice would probably increase if they believed that the letters M.B. after his name indicated that he was a Bachelor of Magic. And he could always assure for himself and his family a respectable livelihood among the credulous, who form the majority of the population, if we could honestly assert that the letters Ch.B. were conferred upon him because he was a Bachelor of Charlatanism. It is not in the alleviation of symptoms, nor in the treatment of minor ailments, that medicine impresses us. It is in its confident challenge to the diseases that kill that the science of medicine reveals its greatness. Witness the attack on cancer, and the results just obtained by a graduate of this University. What also could be more convincing, what more impressive, than the simple statement that during our life-time the death-rate has fallen from 22 per 1000 to 12, and that the expectation of life has risen from 40 years to 55. The people of this country and of this generation have, through medical science, experienced in their own persons the fulfilment of the promise conveyed by the Prophet Isaiah to the dying Hezekiah: "I have heard thy prayer, I have seen thy tears: I will add to thy days 15 years."

Recoveries are effected by magical methods, by religion, by charlatanism, and by nostrums. The importance of these is not to be minimised because they occur in minor ailments, for once a neurosis or other illness has begun, no one can foretell how serious the end-results may not be. The medium of cure in all these cases is the mind. The body cannot get away from it any more than the body can escape the action of the force of gravitation. Its power is great both as a causative and a curative agent. It can produce organic changes; it can hasten or retard recovery.

At the beginning of the Christian era, the science of medicine was in its infancy among the Jews, who believed that disease was directly inflicted by God or caused by evil spirits. In this, the twentieth century, can science accept such primitive pathology? The sphere of the Church is spiritual and moral; and the clergyman is honoured in every household and welcomed in times of sickness and of sorrow. But the healing of the sick is the sacred trust of the physician, as absolutely so as the study of the heavenly bodies in their courses is the sphere of the astronomer, although Science can never forget that the Church did not concede even this point till Galileo had suffered.

THE MOST VALUABLE ASSET.

In the last place, the most valuable asset of the physician is personality. Its influence in sickness is mental healing, and it is of greatest value when trained and directed. The methods of employing such healing are infinite, for they vary with age and sex, with race and religion, and with circumstances.

Unquestionably, you, who have graduated to-day, are members of the only class fit to be trusted with the exercise of these great powers of healing. Your Alma Mater relies upon you because she knows that you possess a knowledge of the science of medicine, and because you follow the highest ideals of professional conduct. The superstitious and the ignorant are drawn, as by a magnet, into the pitfall of charlatanism.

Although you have passed no professional examination on this subject, you all have within you a psychic influence more powerful to relieve and more helpful in sickness than all the drugs in the British Pharmacopœia. This magical force is personality. It is this possession that makes medicine greater than a science: Go forth and use it wisely!

THE LATE DR. J. T. WILLIAMS.—The death occurred on July 16th at Barrow-in-Furness of John Terrell Williams, M.R.C.S., at the age of 80. He was the oldest member of the profession in Barrow. A student at St. Bartholomew's Hospital, he qualified in 1867, and held a house appointment at his hospital before becoming resident medical officer at Rossall School. For many years he was honorary consulting surgeon to the North Lonsdale Hospital. He was made a J.P. in 1890.

THE

Croonian Lectures

ON SOME

DISORDERS OF MOTILITY AND OF MUSCLE TONE,

WITH SPECIAL REFERENCE TO THE CORPUS STRIATUM.

Delivered before the Royal College of Physicians of London

BY S. A. KINNIER WILSON, M.D., B.SC. EDIN., F.R.C.P. LOND.,

PHYSICIAN FOR OUT-PATIENTS, NATIONAL HOSPITAL, QUEEN-SQUARE; JUNIOR NEUROLOGIST, KING'S COLLEGE HOSPITAL; CONSULTING NEUROLOGIST, METROPOLITAN ASYLUMS BOARD.

LECTURE IV.*

ATHETOSIS.

MR. PRESIDENT AND GENTLEMEN,—As with chorea, so with athetosis, a typical case is easy of recognition, though to define the symptom is not equally simple. In 1871 Hammond, who first drew attention to it, stated that "it is mainly characterised by an inability to retain the fingers and toes in any position in which they may be placed, and by their continual motion," and in another passage he said that "the movements are slow, apparently determinate, systematic, and uniform," in contrast to those of [post-hemiplegic] chorea, which are "irregular, jerking, variable, and quick." The contrast between the two, however, is by no means so definite as this description might lead one to suppose.

CLINICAL CHARACTERS.

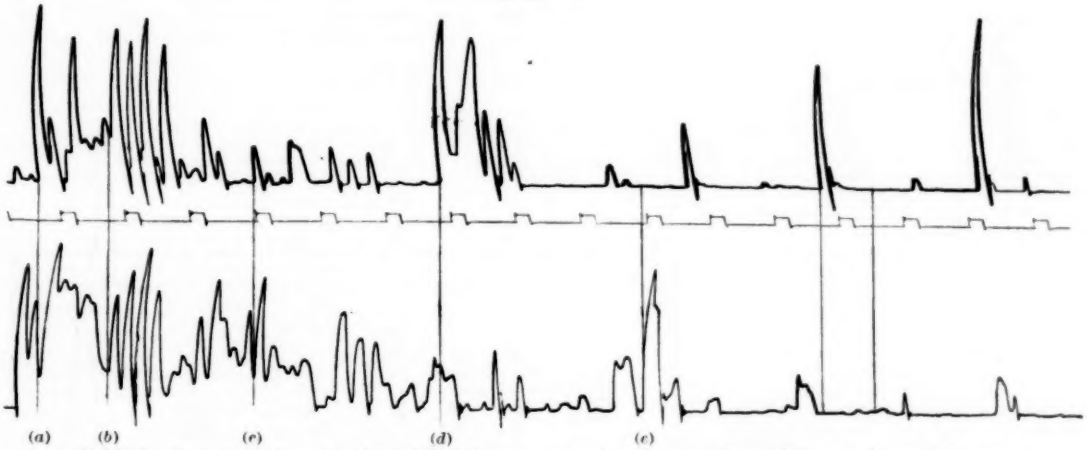
(1) Athetoid movements are characterised by relative slowness, in apparent contrast with the relative rapidity of choreic movements, and by the perpetual blending of one movement with another, leading to the "continual motion" of Hammond. They form a mixture of irregularly synchronous contractions of opposite muscular groups, so that on occasion the limb or a segment of it is immobilised momentarily in an attitude. The "mobile spasm" flows indifferently into muscular units, the result being a medley of contraction entangling the limb, as it were, and leading to no accomplishment.

During this irregular muscular display varying rigidity naturally makes its appearance, yet unless the athetosis is associated with some degree of "paralysis" there is little, if any, actual fixed rigidity, and this generally bears some proportion to the amount of "paralysis." In fact, during temporary relaxation of athetotic activity the limb musculature is frequently, if not constantly, hypotonic. "Voluntary" innervation of the affected part is always laborious and commonly aggravates the athetoid contractions, at least within a very short period; "voluntary" control over them is fleeting and imperfect.

(2) Closer analysis of the exact nature of athetosis can be made conveniently by means of double tambour tracings, care being taken by adequate limb fixation to ensure the absence from the record of fortuitous (non-athetoid) movements. Fig. 27 reproduces a tracing taken from the left forearm in a striking case of adult athetosis (of vascular origin, and progressive); the upper tracing represents the contractions of the extensor communis digitorum, the lower, of the flexor longus digitorum. At (*a*) practically synchronous contractions of these opposite muscles occur; at (*b*) a series of four similar concomitant contractions is seen; between (*c*) and (*d*) flexor activity is more pronounced than extensor; at (*d*) the extensor group contracts vigorously during flexor contraction; and at (*e*) flexor contractions take place by themselves. The irregularity of the individual contractions of one implicated muscle is well-shown in Fig. 28 (from the same case), recording the innervation of the long finger flexors during a period of extra-excitability. Here contraction follows contraction in an extremely confused fashion, one being often thrown in before the muscle has relaxed from the previous contraction. Fig. 29 records simultaneously the contractions of the biceps brachii and triceps of the same case; it shows, between (*a*) and (*c*), three contractions of the biceps to one (tripled) of the triceps; at (*b*) reciprocal innervation is completely in default; at (*c*) flexor and extensor contractions are almost but not quite synchronous; at (*d*) the triceps contracts and a little later the biceps, both relaxing together; and at (*e*) the former contracts in four quick innervations by itself.

Another series of records have been taken from a case of right infantile cerebral hemiplegia, with athetosis and Jacksonian epilepsy. In this case I have made use of the extensors of the wrist and fingers, the former normally relaxing (after synergic contraction during closure of the fist) when the fingers are extended.

FIG. 27.

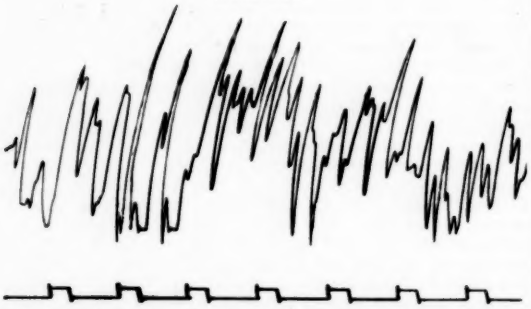


Athetosis. Upper record, contractions of left extensor communis digitorum: lower, left flexor longus digitorum.

* Lectures I., II., and III. appeared in THE LANCET of July 4th, 11th, and 25th respectively.

In Figs. 30, 31, and 32 are represented three different results obtained from this patient; in Fig. 30 the wrist extensors relax more or less normally while the finger extensors contract, but they contract again in a quite abnormal fashion, notwithstanding the maintained finger extension; in Fig. 31 the wrist extensors decontract appreciably before the contraction of the finger extensors; in Fig. 32 the finger extensors contract normally, yet the wrist

FIG. 28.



Same case as Fig. 27. Contractions of left flexor longus digitorum during a period of extra-excitability.

extensors hold their contraction for a time, then at length relax, but contract once more. Such modifications of physiological law are quite beyond the power of "volition" to effect. Nothing could more conclusively demonstrate the complete abrogation by disease of the normal physiological interaction of component muscular units in the performance of a given movement, and this interference with physiological law is entirely characteristic of the movements of athetosis. In paralysis agitans, as we have seen, the law is not annulled.

(3) Owing to the essential variability of athetotic contraction no enduring posture might perhaps be expected, yet the "athetoid hand" is sufficiently definite to merit attention. A saddle-shaped posture of the fingers is common, the terminal phalanx being in flexion while the proximal phalanges are in extension; with this extension (often hyperextension) at the metacarpophalangeal joints is coupled a notable flexion at the wrist, so that the hand often assumes that attitude of wrist and fingers which we have seen is of extreme frequency in chorea and which, as we have also seen, represents a "physiological shift" from the posture of the normal hand at rest. In athetosis, further, a tendency for pronation or hyperpronation of the forearm (the "pronator sign") is equally common.

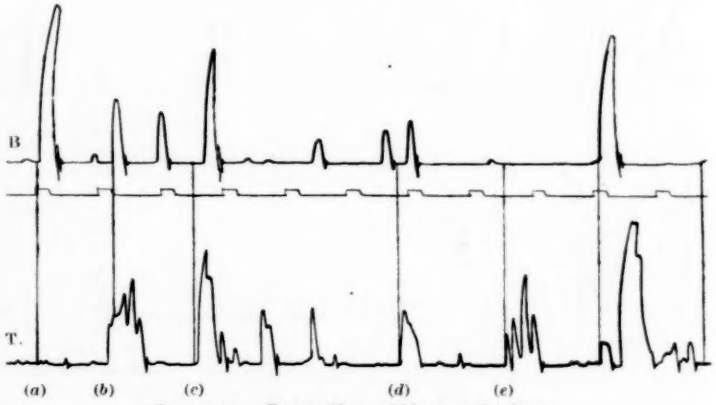
(4) Comparing, now, the symptoms of chorea and athetosis, we find the resemblances more impressive than the differences. In respect of the latter, we have seen that choreic movement is discrete and rapid, while athetoid movement is slow and confluent. But this difference is more apparent than real; athetoid action is slow largely because it is confluent, and, on the other hand, confluent chorea results in slowing of the "spontaneous" movements. Besides, in some athetoses a degree of discreteness and quickness is observable. In respect of resemblances, in each the type of motor derangement is complex, elaborate, and specialised; changeableness and variability of movement is a prominent trait (i.e., absence of essential repetitiveness); the law of reciprocal innervation is at fault in athetosis and in confluent chorea equally; the movements, "caricatures" though they are in athetosis more than in chorea, have the appearance none the less in the case of the former of being subjectively purposeful—as for grasping or relinquishing an object, &c.—though they are objectively purposeless. In both, a degree of hypotonia is commonly discoverable; resemblances between the athetoid and the choreic hand are sufficiently obvious; involvement of the mechanism for emotional expression, if found in athetosis, is commonly bilateral, as in chorea, though to this there are exceptions. It is difficult to gauge the amount, if any, of actual weakness of the musculature in athetotic cases, since (*a*) they are not infrequently accompanied by definite corticospinal derangement (hemiplegia or hemiparesis), from which it is desirable to attempt to separate the athetotic element; (*b*) "volitional" innervation is constantly impeded by athetoid activity, rendering distinction arduous. Enough, however, has been said to justify fully the common grouping of choreic and athetotic movement under the general heading of "choreo-athetosis."

RELATION OF ATHETOSIS TO TONIC INNERVATION.

(5) The condition described as "tonic innervation" is constituted by inability to relax "voluntarily" a given innervation initiated by that process. As the patient "voluntarily" contracts his flexors (say) in movement active inhibition of the antagonists, the extensors, takes place, according to the law of reciprocal innervation; when next he would reverse this movement, he is able "voluntarily" to innervate the extensors, but no corresponding inhibition of the flexors takes place; these remain contracted, it may be for many seconds. From what we have been able to show by clinical methods, a condition resembling tonic innervation, in fact practically identical with it, may occur in athetosis. I have a number of observations confirming this statement, which, for that matter, was fully exemplified in a paper on "The Phenomenon of Tonic Innervation." The symptom was then described as occurring in cerebral cases (frontal) unassociated with athetosis, and as being seen mainly if not solely during so-called "volitional" movement. In the case of athetosis it is found, when present, during so-called "involuntary" activity, in the sense that antagonists may remain definitely contracted though the opposite muscles are rising into contraction, but it often also develops in typical guise during "voluntary" movement. I have already commented on the fact that no phenomenon of this kind has come under my notice in any of the scores of Parkinsonian cases that have been personally investigated.

Clearly, it can only be explained satisfactorily by regarding it as a derangement in the proper relation between impulse and inhibition—i.e., as a disorder

FIG. 29.



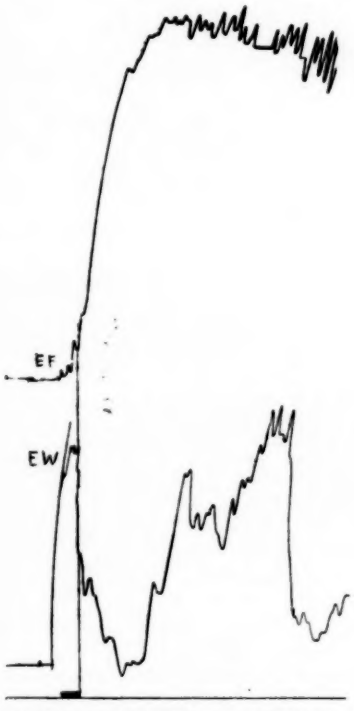
Same case. Contractions of biceps and triceps.

of reciprocal innervation. Thus our clinical study of athetosis leads us again to the view that its essential and underlying basis is precisely this interference with the normal laws governing the physiological interaction of component muscular units in movement, and it is immaterial whether this be "voluntary" or "involuntary," for no discriminating line can be drawn between the two.

On the sensory side, there was complete astereognosis in the right hand, with only slight diminution in the appreciation of tactile stimuli.

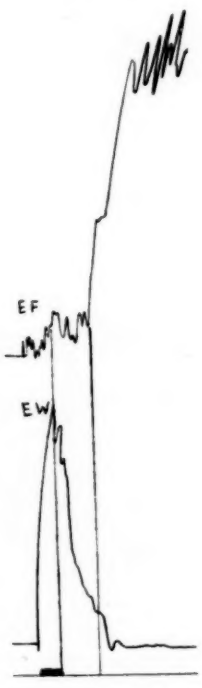
Apparently, an exhaustion paresis of the right corticospinal system made the athetosis temporarily impossible; only with recovery of power did it begin again. The evidence in this case pointed unmistakably to a *cortical* origin for all the symptoms.

FIG 30.



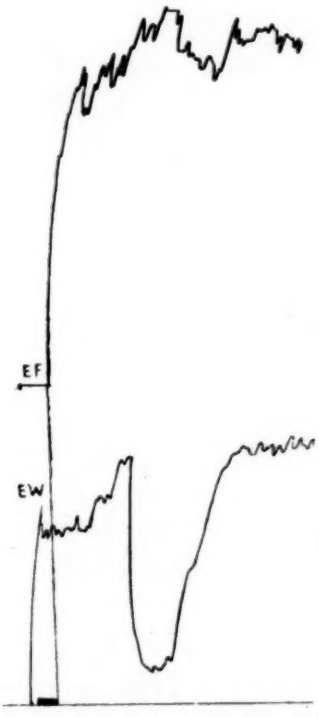
Athetosis. Abrogation of physiological law during movement of extension of the closed fingers: extensors of wrist decontract but contract again.

FIG. 31.



Same case as Fig. 30. Decontraction of wrist extensors before finger extensors contract.

FIG. 32.



Same case as Fig. 30. Wrist extensors fail at first to decontract when finger extensors contract: after later relaxation they contract again.

PATHOGENESIS OF CHOREO-ATHETOSIS.

On the clinical side, evidence has been adduced indicating, both for chorea and for athetosis, that the following considerations bear on the problem of pathogenesis.

(1) Since the movements are active and continuing, for their existence relative integrity of some efferent path is a *sine qua non*. Many cogent arguments suggest that this path is the corticospinal path. I may refer the reader, for a moment, to the summary of the clinical analysis given at the close of the sections on chorea, and supplement the deductions there drawn by one or two more matters bearing on the topic.

Many cases of infantile cerebral hemiplegia with Jacksonian fits are accompanied by athetosis. We assign the hemiplegia and the epilepsy to encephalitis of the cortex and implication of the corticospinal tract, and it is justifiable and reasonable to assume in these cases a cortical origin for the athetosis also. Take a single illustrative case.

A little girl of 14 had suffered from infantile cerebral hemiplegia with athetosis and Jacksonian epilepsy since she was one year old. The aura to the fits was the appearance of "twinkling red, blue, and white lights" in the right field, followed by twitching in the right face and right fingers, which spread in typical Jacksonian fashion. For 20 minutes after each fit all athetosis disappeared from the right limbs.

I refer next to the case recorded by the late Sir Victor Horsley in his Linacre Lecture of 1909. A youth of 15 had had left hemiplegia with severe athetosis since an attack of scarlatina at the age of 7. Horsley found at operation that the right postcentral gyrus was reduced to half its normal size—a very significant observation. He excised the cortical motor area for the left arm, and the athetosis thereafter vanished entirely and had not returned when the patient disappeared from notice some 14 months later. On the other hand, the arm paralysis following the cortical excision had by that time been greatly mitigated. Similar cases have been put on record by Anschütz and others. Reference, too, may be made to Case XVIII. of Jakob's recent monograph, where left-sided athetosis disappeared entirely after a sudden left flaccid hemiplegia. The patient lived for 18 months after, but the athetosis never returned. (I venture to differ altogether from Jakob as regards the interpretation put by him on the pathological findings in this valuable case.)

Strong additional evidence is hereby furnished of the significance of *relative* integrity of the pyramidal system for chorea and for athetosis. I have never yet found a case of either in which "spontaneous" movements occurred in the presence of absolute corticospinal paralysis. No movements remotely resembling either have been seen in my clinical

cases of decerebrate rigidity in man, and Magnus, similarly, has commented on their absence in his experimental animals (of various species) submitted to decerebration.

(2) Another line of clinical evidence points to the possibility of implication, in choreo-athetotic cases, of afferent paths to the cerebral cortex—viz., from the cerebellum by the regio subthalamica to the optic thalamus, whence there is a wide distribution of fibres to the pallium.

The frequent appearance of muscular hypotonia both in chorea and in athetosis has been mentioned above, and the element of incoördination is prominently in the clinical picture in both, especially, as concerns chorea, in the case of the confluent variety. In numerous instances of chorea the knee-jerk exhibits that "pendular" quality which pertains largely to cases in which cerebellar function is disordered. Now one of the many interesting facts connected with cerebellar dysfunction is, that whether the lesions be on the afferent side to that organ (spinocerebellar), or intracerebellar (cerebellar cortex, or from that cortex to cerebellar ganglia), or cerebellifugal (cerebello-cerebral). the same sorts of symptom to some extent make their appearance in each instance. It is impossible to say by clinical scrutiny alone of a case of cerebellar ataxia in which of these three divisions the lesion is situated. Hence where for other reasons a cerebellifugal (cerebello-cerebral) lesion is likely, we may well expect to find some kind of cerebellar symptoms. If, then, other clinical facts argue a cortical origin for a symptom-complex, the coexistence with it of certain cerebellar symptoms can justifiably be set down to the development of a cerebello-cerebral defect of function.

In other papers I have on more than one occasion laid stress on the many clinico-pathological cases which point to lesions somewhere on the cerebello-mesencephalo-thalamo-cortical apparatus being responsible for the appearance clinically of choreo-athetosis. The reality of "Bindearmchorea" (superior cerebellar peduncle, especially in the neighbourhood of Wernekinck's commissure) is fully established. In several cases of acute thalamic lesion (neothalamus) I have seen pronounced "involuntary" movements of the choreo-athetotic variety. I have in a recent case of "athétose double" found bilateral lesions of the neothalamus (posterior inferior region). A case at present under my care at Queen-square exhibits the thalamic syndrome with athetosis of the same limbs (arm in particular). I might also cite recent experimental work strongly favouring the view here maintained (Lafora), and the older and seemingly forgotten experiments of Bickel and Jakob, who produced so-called "cerebral sensory ataxia" by extirpation of the postcentral cortex, and who specially remarked "the peculiarly explosive character of voluntary movements" after the lesions. This, needless to say, is in fact a choreic character, as has been already discussed.

On purely clinical grounds, however, the evidence here adduced pleads clearly in favour of the hypothesis offered that athetosis and chorea are exteriorised via the corticospinal paths, and that behind their appearance is an afferent disorder of regulation, producing choreiform and athetoid characters in movement, ataxia or incoördination, and hypotonia. This afferent disorder or derangement of regulation is attributable to lesions situated on the cerebello-mesencephalo-thalamo-cortical path already described. As a consequence, "voluntary" movements via the corticospinal tracts exhibit characters corresponding to the functional defects; further, these tracts are, continuously or intermittently, usurped also by "spontaneous" movements of choreiform or athetoid character, movements in many ways closely resembling "voluntary" movements, over which the patient's inhibitory control remains desultory and incomplete. A persistent (or intermittent) stream of disordered cerebello-cerebral afferent stimuli keeps up the flow of "involuntary" movement; only in sleep are these excitations so damped down as to allow the movements to cease. During waking life, it may be for years, as we have seen, the stream flows to the cortex and the cortex ceaselessly responds.

Thus, in a definite sense, choreo-athetoid activity is the activity of cortical reflex arcs; the movements have cortical quality and yet they are "involuntary."

If the views here offered can be reasonably entertained, they lead to the conception of the possibility of "*involuntary*" *cortical motor activity*—a natural development of the hypothesis I have suggested. As far at least as chorea is concerned, the conception appears to me to have much to justify it, and little less in respect of athetosis. *The "spontaneous" activity of choreo-athetosis, thus conceived, is nought else than a succession of cortical "reflexes," high-grade movements largely comparable to those called "voluntary" except that the patient's "volition" neither initiates nor inhibits them.*

Further explanation, however, is requisite, in more than one respect.

(1) When I speak of cerebello-mesencephalo-thalamo-cortical dysfunction being an integral factor in the appearance of choreo-athetotic movements exteriorised via the pyramidal system, I do not limit the association to an anatomical link in the post-central cortex. Thalamo-cortical fibre-systems are widespread, and a frontal radiation is just as definite as any to the postcentral gyrus, and no less important. For, on the efferent side, when I have been speaking in various preceding sections of the corticospinal system being usurped by movements of a "spontaneous" or "involuntary" kind, I do not wish it to be supposed that I regard the *anatomical* Betz-cell as the *physiological* terminus a quo of efferent motor activity. On the contrary, many lines of evidence are against such a supposition. From the excitable motor area (Betz-cell area) one does not obtain movements of so elaborate or intricate a pattern as are seen in everyday "volitional" action; the combinations of movement elicitable by the stimulating electrode are anatomical rather than physiological; the "march" of the movements in Jacksonian epilepsy is not paralleled in ordinary normal "volitional activity." For the complex movements of chorea, to take an example, we must postulate a motor centre higher in a physiological sense than that of the motor region *sensu stricto*, and both clinical, pathological, and experimental evidence suggests that such a centre lies in front of the Rolandic area. Relatively short transcortical neural systems link the frontal to the Betz-cell area, and I imagine, consequently, that the afferent disorder of which I have spoken produces its effect by radiation from the thalamus on this postulated frontal motor centre, quite possibly from the parietal to the frontal cortex, and so on the (anatomical) origin of the corticospinal tracts.

(2) The inability of the choreic or athetotic patient to control adequately the abnormal activity of the cortical arcs of which I have spoken can only mean, translated into physiological terms, failure of transcortical inhibition from some unknown source. His "will-lessness" in respect of the abnormal motility from which he suffers can be nothing else, physiologically, than failure of one cortical element to inhibit another cortical element—a state of affairs the "extreme likelihood" of the occurrence of which is postulated by Sherrington for various fields of cortical action. Prosecution of this point would take me too far from my main thesis at present, but brief allusion to some aspects of the question may not be out of place. The objective study pursued in these lectures precludes, as I have shown, the likelihood of the corticospinal system (Betz-cell to muscle) being "voluntary" in any exclusive sense, though it is the *usual* path by which "voluntary" movements are

exteriorised. These must "start" at a still higher physiological level, as is apparent from the considerations advanced in the previous section. The "involuntary" movements of chorea are of a higher physiological type than those of Jacksonian epilepsy; therefore even the transcortical part of the whole "voluntary" motor efferent system is on occasion usurped by "involuntary" action. "Volition," therefore—always speaking physiologically—is driven back to some other transcortical source, remote enough from the Betz-cell, from whence its action on the whole motor path—say, fronto-rolandico-spinal—is, in the case of chorea, &c., very imperfect indeed; or, it is driven out by "involuntary" cortical activity. Consideration of the phenomena of chorea and of athetosis, of tonic innervation and of apraxia, and of cortical reflex arc activity in general, in my view, clearly supports this line of argument. "Volition," in short, seems to be little else than transcortical inhibition, a "voluntary movement" little else than a movement that is "allowed" transcortically, an "involuntary movement" (of this high class) little else than one that cannot be transcortically prevented.

It is of interest that the present objective studies point in the direction of these tentative conclusions, since quite other lines of research by other workers seem to indicate dissatisfaction with current conceptions. Lashley, for example, says "the conception of volitional activity is too vague to have any scientific value," and holds that the "volitional" or "automatic" character of the centrifugal neural impulses of the cortex can be defined "only in terms of their complexity of organisation and their relative importance in the total motor integration." Von Monakow, after declaring that the common views of pyramidal function must be essentially modified, says "it is probable that the pyramidal areas serve less for the execution of voluntary movements than for the inhibition of the kinetic functions of spinal coördination. Their function seems to be in the class of reflex activity." If lower centres are less under the directive than the inhibitory influence of higher centres, the same may well be true of some among the cortical centres themselves.

(3) Reverting finally, in this connexion, to the demonstrated disorder of reciprocal innervation characteristic of choreo-athetosis, we have to examine the question of the physiological level at which this phenomenon takes place. Reciprocal innervation is readily obtainable by stimulation of any particular single point on the motor cortex proper, but it is also produced by excitation of the internal capsule, the pyramids in the medulla, and at still lower levels. The action of arrest of one muscle and excitation of its opposite may certainly be elicited from the cortex, but, in Sherrington's own words, "the seat of inhibition in these reactions from the motor cortex lies probably at the place of confluence of conducting channels in a common path, likely enough at their confluence upon the 'final common path'"—in other words, at the spinal level. Clinically, too, it is likely, from a consideration of data that I cannot now elaborate, that the link between the muscular components of a given movement (protagonists, synergists, and antagonists) develops its activity at the spinal level, but this is not the whole question. We know quite well that reciprocal innervation is typical of the numerous spinal reflexes which can be elicited by stimulation of dorsal roots; this has been performed seriatim for cervical and lumbar roots by Sherrington and by Page May, and the widespread movement patterns thus obtained are systematised and largely invariable. Without reciprocal innervation such spinal reflexes would be impossible. Spinal coördination exists. But from the cortex itself, as we have seen, similar coördinated movements can be obtained, although they are limited in extent, as has already been remarked. Whether precisely the same coördinating mechanism in the cord is used both for spinal reflexes and for cortical impulses is undetermined; according to Graham Brown, "there is a finely differentiated mechanism in the motor cortex which does not set into action spinal centres in the same manner as do the in-going nerve-impulses carried by the sensory nerves of a limb, but is able in some way to pick out and set into action small portions, as it were, of the simple reflex movements." Be this as it may, *since reciprocal innervation is obtainable from the cortex, it can be deranged from the cortex.* It is in fact completely deranged in so-called tonic innervation, as I have previously demonstrated, and in these cases the lesions are situated in the frontal region and a transcortical effect is exercised on the pyramidal system. It is also entirely disorganised in choreo-athetosis, as has here been fully exemplified, and the argument which I have developed points definitely in the direction of a cortical arc being utilised for the hypermotility of these clinical states. While the ultimate stage probably is spinal, *the origin of the disorder in chorea and in athetosis is on the afferent side to the cortex or in transcortical neural systems from the afferent to the efferent side.*

I am not disinclined, from a study of my clinical cases, to suggest it is the cerebellar element, as I have already indicated, in the afferent cerebello-cerebral defect of regulation, that is responsible for the disarray of component units in a cortical movement, "involuntary" as the latter is (in the cases under consideration), and some experimental support for this view is forthcoming in the recent researches of Tilney and Pike. Although on clinical grounds I am not in accord with their general standpoint, their conclusion that the cerebellum appears to play a prominent rôle in maintaining the proper relation in the "synergic units" of the body has not a little to be said in its favour.

(To be concluded.)

Clinical and Laboratory Notes.

A CASE OF ACUTE INTESTINAL OBSTRUCTION DUE TO THE PRESENCE OF A DRAINAGE-TUBE LEFT IN THE PERITONEAL CAVITY.

BY R. LESTER WILLIAMS, M.B., B.CH. CAMB., F.R.C.S. ENG.,
LATE RESIDENT SURGICAL OFFICER, ROYAL INFIRMARY, SHEFFIELD.

THE following case of a foreign body lying unsuspected in the peritoneal cavity for 12½ years and causing no inconvenience is sufficiently unusual to justify its being placed on record.

R. H. J., male, aged 32, was admitted to the Sheffield Royal Infirmary on Jan. 13th last.

History.—On Jan. 11th at 4.45 P.M., while on his way to work, he commenced with slight abdominal pain. At 6 P.M. the pain was worse, and at 8 P.M. it became so severe that he had to leave work and return home. He vomited the same evening, and vomited repeatedly up to the time of admission. The bowels last acted on the morning of the 11th. On the 13th he was seen by his own doctor, who ordered two soap enemata at an interval of half an hour; the results of which were so poor that he ordered immediate removal of the patient to hospital with a diagnosis of intestinal obstruction. Previous history was as follows. In August, 1912, he had been operated upon for acute appendicitis, when an appendicular abscess was opened and drained with a rubber tube, but the appendix itself was not removed. After recovery from this operation he was sent home, and three weeks later was readmitted and the appendix removed. Since then he has remained perfectly well, and at work all the time. He has had no abdominal pain of any sort, and his bowels have acted daily without aperients.

Condition on Admission.—The patient was a healthy-looking man. Temp. 99·6 F°, pulse 80. A healthy healed pararectal appendicular scar was present. Abdomen distended and moved poorly with respiration There was some slight general abdominal tenderness. Percussion

yielded generalised tympanitic note; liver dullness normal. Rectal examination was very painful and could not be satisfactorily carried out. A diagnosis of acute intestinal obstruction due probably to adhesions or bands following the original operation for appendicitis was arrived at, and an immediate operation was performed.

Operation.—The abdomen was opened through a right lower paramedian incision. Coils of distended small intestine at once presented. The region of the old appendicectomy scar was first explored, but beyond some adhesions between the scar and the great omentum nothing abnormal was discovered. Passing down into the left side of the pelvis from the right iliac fossa a tubular structure not unlike a calcified internal iliac artery was felt. As there was no pulsation it was very cautiously dissected out from its sheath of peritoneum and fibrous tissue, and was found to be a piece of ordinary red rubber drainage-tube. On investigation of the pelvis it was discovered that the distal 4 cm. of the tube had passed through an aperture in the lowest part of the root of the pelvic mesocolon. Through this aperture had passed also about 3 feet of small intestine which had become strangulated. The strangulated gut was reduced without great difficulty, and on examination was found to be deeply congested but quite viable. The next problem was to close the opening in the pelvic mesocolon so as to prevent the possibility of a recurrence of the strangulation. The patient was placed in the Trendelenburg position and, with the aid of a headlight, a good view of the aperture in the pelvic mesocolon was obtained. The aperture admitted two fingers and running along its posterior margin were the inferior mesenteric artery and vein. The aperture was closed with some difficulty with two catgut sutures, during the introduction of which great care had to be taken to avoid damage to the inferior mesenteric vessels. The abdomen was closed in layers without drainage.

The patient made an excellent recovery and was discharged from hospital as cured 14 days after the operation. The drainage-tube measured 15 cm. in length and 1 cm. in diameter, and was in a perfect state of preservation. It contained four lateral holes (evidently for drainage), and the point where it passed through the hole in the pelvic mesocolon was marked by a well-defined constriction.

Comments.

The remarkable feature of this case is that, although the patient had this large drainage-tube in his abdominal cavity during the 12½ years that elapsed between the two original operations for appendicitis and the present operation for acute obstruction, he was nevertheless absolutely well, quite free from abdominal symptoms of any sort, and able to do full work. One would expect that the presence of a large drainage-tube amongst the intestines would have given rise to at least some abdominal symptoms due to the peristaltic action of the intestines pressing the tube downwards into the pelvis and through the base of the pelvic mesocolon. Had the tube not given rise to the attack of acute obstruction its presence could never have been suspected. The only really difficult part of the operation was the closure of the opening in the pelvic mesocolon which was so deep in the pelvis and which had the inferior mesenteric artery in such close relationship. The case illustrates the fact that although a large foreign body may lie for years unsuspected in the peritoneal cavity, it is always a source of potential danger to its host whose life it may place at any moment in the gravest jeopardy.

In conclusion, I wish to thank Mr. Ernest Finch, under whose care the patient was admitted, for his permission to publish this case.

VASO-NEUROSIS CAUSED BY TOXIC IDIOPATHY TO MILK IN A CHILD.

BY HECTOR M. WALKER, M.D. GLASG.

THE following case of vaso-neurosis in a child of 10½ months seems to be worthy of recording.

The baby, a male, weighed 21½ lb. He was 8¾ lb. when born. He had no illness beyond a rather troublesome dry eczema on the head, which came on when 2½ months old and lasted until about 6 months.

Condition on Examination.—When I saw him the mother complained that he had been sneezing a great deal for about a week and that lately he had come out in spots. On examination I found that he had an extensive urticaria on the front of the chest, abdomen, and legs. The right ear also was swollen to about twice its normal size, and was hot and red. The mucous membrane of the nose and throat was hyperæmic, but there was no catarrh. The swelling of the ear must have come on very quickly, since the parents had not noticed it, and it subsided about an hour after I left. The urticaria disappeared several hours later, but reappeared on the three following days, the attacks never lasting for long. Once the other ear became swollen. On the third day he developed diarrhœa, passing numerous small loose stools which contained abundant mucus. He had no sickness or temperature, but the appetite was poor. The mucus in the stools lasted for about three days.

The mother told me that the urticaria seemed to come on usually about an hour after he had taken any cow's milk. I did a sensitisation test by scarifying the skin on the arm and placing a drop of milk on it, and in about ten minutes there was an extremely marked reaction, a large circular red wheal being produced.

This case shows a general disturbance of the vascular innervation caused by sensitiveness to a foreign protein. By leaving cow's milk out of the diet there have been no further attacks of the urticaria, but the sneezing has persisted, although not so frequently as before. The association of urticaria, angino-neurotic œdema, vaso-motor rhinitis, and mucous colitis at the same time and in the same case is interesting. It seems probable in this case that the colitis was caused by the same influences which, acting on the skin, had caused the urticaria and, on the nasal mucous membrane, the rhinitis. There is no family history of asthma or vaso-neurosis.

HARROW.

A LOOSE BODY IN THE TUNICA VAGINALIS.

BY A. ERNEST SAWDAY, M.B., B.S. LOND.,
SURGEON TO THE DERBYSHIRE HOSPITAL FOR SICK CHILDREN.

I HAVE never met with any reference to a loose body in the tunica vaginalis, and the following note would appear to be of sufficient interest to place on record.

A boy of 8 was operated on in May, 1925, for a right undescended testicle, which was lying in the inguinal canal. On opening the tunica vaginalis a firm white mass, the size of a small pea, at once presented and slipped out. It was lying quite free, and there was no pedicle or adhesion whatever. The testicle, though maldeveloped, appeared otherwise anatomically normal. On microscopical examination of the loose body the section showed necrotic and amorphous fibrous tissue with areas of calcification.

What the origin of this body was it is difficult to say. Perhaps it was a detached cyst of the epididymis, or represented a cystic (? and tuberculous) degeneration of the hydatid of Morgagni or of the hydatid of the epididymis.

THE PRIZE-GIVING AT EPSOM COLLEGE.—Over 500 parents and friends were present on Saturday last at Epsom College, when the prizes were distributed by Lord Beauchamp. The following members of the Council were on the platform: Dr. Raymond Crawfurd, Dr. F. de Havilland Hall, Mr. Owen Lankester, Mr. Æneas Mackay, Mr. Samuel Osborn, Sir StClair Thomson, Sir Squire Sprigge, Dr. Harold Spitta, Sir John F. H. Broadbent, Surgeon Rear-Admiral Sir Percy Bassett-Smith, Mr. Douglas C. Bartley, Sir Ernest Goodhart, Dr. E. Climson Greenwood, Dr. Seymour Taylor, Sir Henry Dixon Kimber, Mr. T. Hollis Walker, K.C., Mr. A. Arthur Napper, and Sir William Hale-White. The headmaster, Mr. Arnold C. Powell, mentioned individual scholastic achievements by the boys, and said that in sports also the school was holding a good place. Lord Beauchamp, in presenting the prizes, said that the most important factor in education was not the prize, but the attempt to secure the prize. Dr. Raymond Crawfurd, Chairman of the Council, in proposing a vote of thanks to Lord Beauchamp, referred to the improvements in the equipment of the school effected during the past year, and those in immediate contemplation, and mentioned as two needs still existing a new infirmary, which would leave the old building available for the accommodation of more boys, and the levelling of the Lower School playing fields. The vote of thanks was carried by acclamation, after which tea was served on the lawns, where the band of the Second Battalion of the Queen's Own Royal West Kent Regiment played during the afternoon.

Medical Societies.

MEDICO-PSYCHOLOGICAL ASSOCIATION.

BIRMINGHAM, JULY 6TH–10TH.

THE annual meeting of the Medico-Psychological Association of Great Britain and Ireland was held at the University of Birmingham on July 6th to 10th, under the presidency of Sir FREDERICK MOTT, F.R.S.

The PRESIDENT announced that the Council had nominated Lieut.-Colonel J. R. LORD, C.B.E., M.B., editor of the *Journal of Mental Science*, to be the next President.

The Sympathetic Endocrine System.

Dr. DAVID ORR (Prestwich Asylum) gave a lantern demonstration on the Sympathetic Endocrine System. Dr. Orr said that intellectual life was inseparable from emotion. Certain areas of the brain were associated with the registration of visceral impressions, and there was no impression in any part of the body which was not registered in the brain and which did not immediately react on certain organs. The central nervous system could not be spoken of as a system per se; it was intimately connected with the sympathetic system, and this latter with the ductless glands. As every impression reached the brain it was accompanied not only by its own specific sense, but by an emotional content, and it aroused certain things; it produced either a pleasant or an unpleasant sensation, as there was no such thing in the human mind as a negative impression. Dr. Orr proceeded to elaborate his thesis, and demonstrated what took place during a nervous upset. His main thesis was the intimate coöperative working of the whole mechanism and the need for treating patients from the physiological point of view.

The contribution was discussed by Dr. M. J. NOLAN, the PRESIDENT, Dr. W. F. MENZIES, Prof. G. M. ROBERTSON, and Dr. LORD.—Dr. ORR replied.

President's Address.

Sir FREDERICK MOTT then delivered his address. He said that no progress was possible in knowledge of mental disease until the spell of metaphysical speculation had been shaken off, as that carried with it the doctrine of mind as an invisible intangible spirit with an existence separate from the body. The functions of mind depended on the whole body and on the harmonious action of all its parts. In the apparently healthy brain there might be subtle biochemical and biophysical conditions which were dependent on inborn functional or bodily defects. The highest level of the brain was the first to undergo the deleterious effects of any form of intoxication. This highest level represented the psychic personality of the individual, and was the personal equation due to inborn tendencies and characters derived from racial and familial ancestry, near and remote. In mental disease there might be no discovered differences in the brain structure, even by powerful microscopy. There might perhaps be a vital germinal deficiency manifesting itself by an arrest of the development of many of the cortical neurons or a lack of durability. Or vascular conditions might be present which interfered with the nutrition of the rapidly developing neurons.

The speaker then proceeded to deal with the changes in the mental attitude coincident with the involutional period, adolescence, remarking that all psychic activities were subordinate to and dependent upon physiological processes. The functional correlation of mind and body was shown by the profound influence which the reproductive endocrine system exerted upon the evolution at puberty and on the sentiments which had their roots in the sex instinct. Steinach had shown that the substances of internal secretion had a selective action in storage in the central nervous system, and it was not sufficiently recognised that a climacteric might occur in men between 55 and 65 years of age, being associated in some of them—but not in all—with arterio-sclerosis. Some cases of involuntary melancholia had their origin in testicular regression and the concomitant endocrine gland changes. A study of relatives in a large series of cases in the London county asylums revealed three main facts in relation to the causation of mental disease: (1) The importance of a neuropathic and psychopathic heredity; (2) the special liability of the neuroses and psychoses to occur in adolescence; and (3) the influence of child-bearing and lactation in women, acting as an exciting cause.

The general conclusion he wished to enforce was that it was the duty of medico-psychologists to practise general medicine in its broadest sense, and ascertain whether there was present any body condition which could act either as a cause or a contributory factor in the production of the abnormal psychic state.

Psychological Implications of Encephalitis Lethargica.

Dr. G. A. AUDEN pointed out that the late sequelæ of this infection gave it a sinister importance which was intensified by the steep rise in the epidemic incidence which had marked the past year. Encephalitis opened up an entirely new outlook in psychiatry and neurology, which might bring us to a better understanding of the genesis of certain psychoses and neuroses. Confining his remarks to children between 5 and 15 years of age, he pointed out that the clinical picture presented by the disease was one of a generalised toxic condition, which fell with especial weight upon the nervous system; while the later manifestations, both psychic and somatic, formed a syndrome which gave all the features of a definite and distinct morbid entity. One of these was a characteristic failure of adjustment to the inhibitions and sanctions of the social order, especially in the direction of persistent thieving and lying. Other features, such as a reversal of the normal sleep rhythm, coupled with noisy excitability and perverse habits, seemed to bring the disease into definite relationship with certain types of mental disorder. A considerable number of children developed peculiar habits and tics. Some of these might be attributed in the first instance to increased suggestibility—e.g., the hawking and spitting might be the result of a salivation which had passed off. Occasionally cases showed iteration-compulsions. In some of the advanced cases of Parkinsonism there was a superficial resemblance to catatonia, but in these cases, as Economo had pointed out, the patients were apperceptively and intellectually intact; appreciating fully their relation to their environment; well orientated, and with undiminished critical judgment. The main characteristics were a combination of mental apathy with explosive irritability, a rapid onset of fatigue, and a marked drop in attention, with a heightened susceptibility to emotional stress. These might be correlated with an inhibition of volition and a failure of the exercise of self-criticism. In the opinion of the author the theory of the development of the nervous system put forward by Head and Rivers gave a key to the proper understanding of these character changes and volition defects. They appeared to be *regressions* due to a removal or suppression of the epicritic control over the protopathic instinctive tendencies. The child was essentially, in Lloyd Morgan's phrase, a "self of enjoyment," and it was only as he grew that the ceaseless stream of suggestions of social import raised in him a predisposition towards social conduct. He submitted the following table relating to 64 cases submitted to him for examination:—

	Cases.	Morbid changes (per cent.).
Reduced intelligence	29	45·3
Disturbed sleep rhythm	50	78·1
Marked irritability	45	71·3
Moral defects and character changes	21	32·8
Parkinsonism, bradykinesis, tremors	27	42·1
Perverted habits	29	45·3

With regard to treatment, if the theory set forth in the paper was correct, punishment could have little or no deterrent effect; indeed, it might have disastrous results by fixing an antisocial attitude through the creation of a conflict or an inferiority complex. Under the simple and regulated life of a special institution, differing from the Borstal or industrial school type, sufferers from encephalitis lethargica would re-acquire the necessary epicritic control to enable them to again take their places in ordinary life.

The PRESIDENT showed on the screen slides of the lesions he had found in cases of encephalitis lethargica, and briefly discussed the paper.—Dr. P. C. P. CLOAKE (Birmingham) agreed with Dr. Auden's conclusions. This disease could be put in the great group of toxic cases with mental symptoms, and he considered that the mind was disordered differently under the influence of different toxins. He discussed the pathology of the sleepy state at some length.—The paper was also discussed by Dr. G. H. MELSON, Dr. S. J. COLE, Dr. TAYLOR, Dr. LORD, Dr. HELEN BOYLE, and Dr. A. M. MCCUTCHEON.—Dr. AUDEN replied.

Chronic Infective Processes in Mental Disorder.

Dr. T. C. GRAVES (medical superintendent, Hollymoor Asylum) read a paper on the Incidence of Chronic Infective Processes in Association with Mental Disorder. He said that often the conditions found were beyond the possibility of cure, as they were slow, insidious, and hidden, and sometimes they had not given evidence of their presence. He narrated a number of cases in which slides of the dental condition were shown and the clinical notes read out. In some cases after extraction of teeth a root had been left, and the shutting in of infection had led to spread into the bone. Some people with undoubted septic foci seemed not to suffer disability from them, the explanation being that they were putting up an effective resistance. He also dealt with the questions of sinus infection, infection of ear, tongue, tonsils, and in the female the genital tract, and contended that these septic processes played a definite part in the causation and the duration of mental disorder.

The paper was discussed by the PRESIDENT, Dr. CLOAKE, Dr. BEDFORD PIERCE, and Dr. J. G. SOUTAR. Dr. GRAVES replied.

Delinquency.

Dr. W. A. POTTS read a contribution on this subject. He said he thought the time would come when all sexual offenders, those of a kind now sent to remand homes and those who had committed serious offences, would be referred for a special medical examination. The first duty was to see that the person concerned was not suffering from a physical or psychological handicap, the latter being divisible into inborn and environmental. The presence of a physical disability did not mean that there was not a psychical one also; but when a physical factor had been efficiently dealt with the psychological factor disappeared. Of this he quoted some convincing examples. In many cases of juvenile delinquency the problem was the parents. It had been said that 10 per cent. of delinquents were mentally defective, but Dr. Potts regarded that figure as much too high; it was nearer 2 per cent. Mental conflicts must be recognised and treated as such. Usually the delinquent was failing along more than one line. He had found that homosexual offenders had been retarded, especially on the emotional side, and they responded well to psychoanalysis.

There was a full discussion on this paper, the participants being Dr. R. W. BRANTHWAITE, Dr. MCCUTCHEON, Dr. MARR, Dr. HAMBLIN SMITH, Dr. LORD, and Dr. SOUTAR, and Dr. POTTS replied.

The Iodine Content of Thyroid Glands.

Dr. F. A. PICKWORTH read a paper with this title. It represented a further stage of the work done by Sir Frederick Mott and submitted to the Association at its meeting in Belfast last year, its aim being to correlate the iodine content with histological structure and the mental and bodily condition of the patient. Dr. Pickworth described and demonstrated in the asylum laboratory his new method of ascertaining the iodine content in glands. It consisted of the destruction of the organic matter by fusion with alkali and oxidation of the resulting iodide to iodate with permanganate solution, the excess of the latter being removed by means of animal charcoal. After filtering, potassium iodide was added, and the iodine titrated with thiosulphate. Arterio-sclerotic glands showed less iodine, and in fibrotic glands the iodine was very low indeed. A case of tuberculosis showed a lowered iodine content, but one of miliary tuberculosis showed iodine above the normal. A low quantity of iodine was also found in melancholia, mania, dementia præcox, and arterio-sclerosis, as well as in dementia. In the 39 cases of general paralysis of the insane there was a large range of variation in this respect. It became clear from this investigation of over 100 cases that the iodine content in the thyroid was very important in combating infections, though it probably was associated in this influence with the endocrine products.

Institutional Treatment of Mental Defectives.

Dr. A. M. MCCUTCHEON read a paper on this subject, with special reference to occupational training. He said the objects of the treatment of mental defectives in institutions were four: (1) to correct their antisocial conduct; (2) to restore their self-respect and happiness; (3) to teach them the work for which they seemed most fitted, leading to discharge, if possible; and (4) by stopping the procreation of children and so to prevent the blight from being handed on. All these could best be achieved, he thought, by segregating them in institutions, preferably of the colony type. A keynote to success was adequate classification. There was a good discussion.

The Psychopathic Personality.

This subject was dealt with in a paper by Dr. HAMBLIN SMITH (medical officer, Birmingham Prison). He said the cases dealt with formed a large but ill-defined group, the members of which found it impossible to make satisfactory social adjustments. They had a strong inferiority complex, and however well the physical treatment of them might be carried out, the psychical must not be neglected. These people had a "shut-in" personality, and the hope for the future lay in taking the psychological view of them.

At the dinner the Lord Mayor of Birmingham (Hon. PERCIVAL BOWER), Dr. NATHAN RAW, Miss BARTLEET, J.P., Prof. KAUFFMANN, Prof. Sir JOHN ROBERTSON, and Alderman J. H. LLOYD, J.P., were among the guests, while there was a good attendance of prominent members of the Association. A visit was also paid to the Hollymoor Mental Hospital.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

A MEETING of this Society was held on July 1st, the President, Sir DAVID WALLACE, being in the chair. Sir EDWARD SHARPEY SCHAFER opened a discussion on

The Pituitary.

Dealing first with the anatomy of the gland, he demonstrated its four parts, and its embryological development. The pars nervosa was formed from the brain tissue, the other three parts, pars anterior, medialis, and tuberalis respectively, being of epithelial derivation. The pars tuberalis surrounded the tuber cinerium, thus remaining unremoved in the so-called complete removal of the gland. The main network of vessels for the blood-supply to the gland was in the pars tuberalis and pars anterior, and therefore these

parts were the seat of the maximum glandular activity. Numerous sections of the gland were shown demonstrating colloid material and its escape into the cerebrospinal fluid in the third ventricle of the brain. The posterior lobe consisted of the pars intermedia and the pars nervosa, and the physiological action on the circulation of alcoholic extracts from this lobe were described. On first injection a marked rise was seen, but on a "repeat" dose a fall resulted. The injection from the posterior lobe of the gland caused a marked contraction of the intestine, bladder, and uterus. Milk secretion was notably stimulated, and this even occurred in mammals when an extract of fish's pituitary was used. In the urine a highly diuretic action was exhibited, but repeat doses might cause a lessened secretion. Entirely different actions of stimulation and inhibition were obtained from alcoholic extracts of the gland and of the residue after extraction. The physiological standardisation of tests was described. These were: oxytocic test, pressor test, melanophore test, urinary test, and mammary test. The anterior lobe was concerned with the growth and development in mammals, birds, and amphibia, and administration of the anterior lobe, whether orally or subcutaneously, caused excessive growth and gigantism, while removal of the gland produced the opposite effect. Prof. Schafer remarked on recent and useful work which had been performed in a study of the gland and its action.

Discussion.

Mr. H. M. TRAQUAIR spoke on the subject from the view-point of the ophthalmologist. Symptoms from enlargement of pituitary were of two sorts, glandular and local; the latter, due entirely to mechanical pressure, manifested themselves in visual changes. The effect of pressure was modified by the local anatomical formations, as the gland itself lay in the immediate vicinity of the optic chiasma. Enlargement caused diminution of the fields of vision. Slides were shown of the chiasma and numerous slides of visual fields demonstrating the progressive diminution in size, which occurred in a clockwise or anti-clockwise direction according to the eye affected.

Mr. NORMAN DOTT described various pathological conditions such as tumours, affecting the gland and the subsequent symptoms, which depended on whether the tumour enlarged in an upward direction or not. Destructive growths were accompanied by hypo-pituitarism, while growths of an adenomatous nature caused excessive secretion and corresponding symptoms of body-growth and function in general. Diagnosis was greatly aided by radiograms defining the sella turcica and revealing calcification which occasionally took place as a degenerative change. Operative interference could be carried out from above through the cranial vault or from below through the nose.

Prof. JOHN FRASER referred to the marked increase in growth of tadpoles fed on pituitary tissue. Prof. EDWIN BRAMWELL spoke of a case of myopathy he was treating which presented all the features of hypopituitarism. Several cases of this type had been described in the literature and the association of the two conditions was too frequent to be regarded as a coincidence.

SOCIETY OF SUPERINTENDENTS OF TUBERCULOSIS INSTITUTIONS.

A MEETING of this Society was held at 122, Harley-street on July 6th, Dr. JAMES WATT, the President, in the chair.

Dr. PETER EDWARDS opened a discussion on

The Treatment of Pleurisy.

He regarded all pleural effusions as tuberculous unless negatived by the guinea-pig inoculation test; since pyopneumothorax was occasionally afebrile he advised the examination of all effusions. He considered that efficient strapping of the chest diminished the incidence of effusions. When an effusion occurred in the less active side of a bilateral case he recommended partial aspiration and temporary gas replacement, employing a small-bore needle after previous softening, if necessary, with Sir Henry Gauvain's "1.2.3" solution; complete aspiration resulted in a rapid recurrence of the fluid. Dr. Edwards emphasised the importance of rigid asepsis in cases of artificial pneumothorax, and said that he was satisfied that neither the bore of the needle, the degree of pressure, the type of gas, nor its temperature had any influence on the development of effusions. The type of fluid was important on account of the production of adhesions, and it should be removed when it masked the full view of the collapsed lung, in spite of Dumarest's faith in the utility of benign effusions, because (1) the pleura still thickened after gas replacement; (2) all Dr. Edwards's cases of perforation had occurred in hydropneumothorax cases; (3) he considered fluid a very inefficient splint. If the effusions were left there should be a daily cytological examination and screening both in upright and recumbent positions. Other indications for gas replacement were: (1) When the mediastinum tended to move towards the side of the collapsed lung—here a high positive pressure should be left; and (2) when the fluid was fibrinous. In cases where it was purulent 10 c.cm. of a 0·2 per cent. solution of methylene-blue might be injected into it; this did not stop fluid formation but it mitigated the malignancy. Occasionally he had irrigated with saline, leaving a small quantity of methylene-blue solution in the cavity. He quoted Water's successful employment of Churchman's joint-irrigation apparatus in aspirating the fluid, irrigating first with saline, then with a 1 in 1000 gentian-violet solution until the return flow is clear, and finally leaving a small quantity of the latter in the cavity. He had abandoned as quite ineffective the method of auto-serotherapy. For an effusion in the contra-lateral side of an artificial pneumothorax case he lowered the pressure and so made the pneumothorax partial, this being definitely advantageous, and then he aspirated.

Dr. ELEANOR SOLTAU drew attention to the fact that adherent pleura occasionally occurred unexpectedly in early cases without giving rise to any symptoms. One of the most useful indications was the sucking in of the intercostal spaces on inspiration, especially noticeable when the patient was in the usual position for induction of artificial pneumothorax. Dry pleurisy was not a hindrance and the subsequent limitation of movement, due to formation of adhesions, was probably beneficial.

Dr. A. R. SNOWDEN, in dealing with chronic and purulent effusions, excluded empyemata and limited himself to purulent effusions subsequent to a pneumothorax, spontaneous or artificial, or arising de novo from acute effusions. Removal or reduction of such was not advisable as a routine measure, but was indicated in the following circumstances: (1) If any interference with the circulation or heart's action were present. (2) If associated with indigestion, usually resultant from toxic and mechanical causes. (3) When the liquid filled two-thirds of the actual pleural cavity owing to the risk of jellification. (4) If active pus formation were in progress. Apart from these drawbacks, he considered an effusion to have a neutral if not a beneficial action as a splint and as a restraining influence on an irritable diaphragm, though an inert gas replacement resulted in less thickening and also allowed of more accurate X ray screening of the collapsed lung. He divided cases in two classes: (1) Those to be left alone, or have their fluid level maintained steady by gas replacement, keeping the final inspiratory and expiratory pressures constant. (2) Those to be eliminated by repeated gas replacements, with diminishing gas pressures. If the effusion be chronic the replacement should be done by degrees with intervals of from 3 to 14 days. He deprecated the frequent use of high pressures. Nitrogen, oxygen,

and very dilute chlorine were the gases employed, but oxygen was found very irritant. In his experience purulent effusions were usually sterile and tended to clear up more quickly than simple ones. He had seen afebrile purulent effusions become non-purulent under the influence of ultra-violet radiation. Small doses of sunlight had also been beneficial. He had discontinued lavage as it caused thickening and occasionally sinus formation.

Dr. COLIN MILNE first discussed the differential diagnosis and then reviewed in detail the elements of local and general treatment of dry pleurisy. He pointed out that the induction of artificial pneumothorax for pleuritic pain was of limited use since it often occurred on the less affected side in bilateral cases. He quoted Fishberg's statement that 40 per cent. of dry pleurisies were tuberculous, in view of which he doubted the wisdom of alarming the patient unduly by diagnosing him as tuberculous in the absence of other physical signs. For the neurotic type of patient with pleuritic pain he resorted to the more drastic counter-irritants. In other patients he regarded pain as an indication of an exacerbation of the disease and ordered increased rest.

Discussion.

Dr. H. DE CARLE WOODCOCK reported that he had not had satisfactory results with gas replacement or injection of antiseptics in the more virulent forms of purulent effusions, but in simple effusions replacement was worth doing. He quoted Mr. Morriston Davies's recommendation to remove the gas if fluid returned so rapidly as to cause distress.

Dr. F. R. G. HEAF strongly recommended the inunction of iodex followed by exposure to radiant heat. He disagreed with Dr. Edwards's view that fluid was not an efficient splint.

Dr. G. M. MAYBERRY also advocated the use of iodex, but found methyl salicylate a useful addition.

Dr. ESTHER CARLING had found expectant treatment the best, and Dr. W. C. FOWLER reported favourably of his experiences with the use of radiant heat.

Dr. C. D. S. AGASSIZ replied to Dr. J. D. LEIGH'S inquiry as to the occurrence of effusion in children, that it was very rare, and those few that did develop were probably not tuberculous.

A communication from Dr. VERE PEARSON was read in which he considered that oxygen replacement of an effusion following artificial pneumothorax was indicated in these circumstances: (1) If the chest were three-quarters full. (2) If the chest were one-third or more full, but associated for more than three and a half weeks with toxæmic symptoms. (3) If X rays showed that there was a danger of the lung expanding and becoming adherent. (4) If the fluid, though small in amount, was causing serious discomfort to the patient; this might occur in a convalescent patient on resuming a more active life. (5) In the rare cases of secondary infection of the fluid. In the case of spontaneous pneumothorax roughly the same rules for withdrawal of fluid held good, but the situation was complicated by the presence of an opening in the lung and frequently by secondary infection. Treatment must aim at dealing with these difficulties as well as at keeping the lung compressed long enough to obtain healing of the disease. Skilful adjustment of pressure by gas or fluid-withdrawal aided in healing the hole, while suction drainage and washing out the pleura often diminished the bad effects of sepsis. Open drainage was seldom called for, as it was very difficult to secure closure of the external sinus, and with this type of patient the hole in the lung also tended to remain unhealed. Thoracoplasty was sometimes of use in these cases provided the patient's general condition was good.

THE Nineteenth Voyage d'Études Médicales, which had been announced for September next, will not take place, difficulties having arisen at the last moment with respect to the facilities offered.

PROCEEDINGS OF THE ROYAL COMMISSION ON NATIONAL HEALTH INSURANCE.*

(*Continued from p. 182.*)

EVIDENCE OF OPTICIANS' ASSOCIATIONS.

Institute of Ophthalmic Opticians.

(App. LX. and Q. 17483–17617.)

EVIDENCE was given on behalf of this Institute by Mr. Owen Aves, Mr. F. T. Gregg, and Mr. J. Forrest. Its members number over 1300 qualified persons; they are limited to those who hold (1) the qualification by examination for sight-testing of the Worshipful Company of Spectacle Makers; (2) the qualifications of the British Optical Association; or (3) the qualifications of the State Boards of Registration for Qualified Opticians in those parts of the British Empire which have already adopted legislation for the regulation of sight-testing opticians.

The general argument of the statement put in is to the effect that in the majority of cases the necessary treatment is sight-testing and the provision of optical appliances, and that this can quite safely be given by the qualified optician without the intervention of the medical practitioner or the ophthalmic specialist.

(Q. 17491.) The overwhelming majority of cases, we would say at least 95 per cent., require solely refractive treatment. . . . Such cases call for no intervention whatever of either the medical practitioner or the ophthalmic specialist, and . . . the qualified ophthalmic optician is the very best person to determine whether any such additional intervention or treatment is necessary.

The witnesses objected to the requirement which they understood to be imposed by the Ministry of Health that an application for ophthalmic benefit must only be considered by an approved society if it is accompanied by the written recommendation of a qualified medical practitioner.

With regard to the training of the qualified optician they made the following statement, and said that the Institute and other optical organisations have repeatedly requested the Ministry of Health to make thorough and searching inquiry into the facilities for training, and the methods of conducting the examinations for optical qualifications for diplomas in refraction.

(App. LX. 43.) The training of the qualified optician is not only intensive with respect to the theory and practice of refraction, but is also extensive concerning matters cognate to and arising out of such practice. Beginning with a basis of mathematics the optical student proceeds to the specific study of geometric optics and the properties of lenses. His further studies include ocular anatomy and physiological optics, on which foundation he is then taught the principles of sight-testing and the correction of refractive errors. Lastly he is taught to detect abnormal cases which require medical or surgical attention, in order that he may fulfil his ethical obligation to the public to pass on for medical advice those cases which require other than optical treatment.

The examinations of the British Optical Association and of the Worshipful Company of Spectacle Makers are, it was stated, conducted by eminent ophthalmic surgeons, refractionists, and physicists, and are admittedly searching in character and comprehensive in scope.

While the members of the Institute work in close coöperation with medical practitioners generally, and with many ophthalmic surgeons, they suggest that the large majority of medical insurance practitioners do not profess to know anything of refraction, and, as fully occupied public servants, are only too glad to avail themselves of the services of the qualified optician.

The witnesses contended that while clinical training in observation is certainly desirable and, in fact, given to the optical student, medical training in a therapeutic

* References to the paragraphs in the printed statements issued as appendices to the reports of the oral evidence are given thus: "App X. 69," and references to the oral evidence thus—Q. 1369.

sense is not necessary. The following passage[1] was quoted in support of the view that thorough optical training is impossible to the average medical student with the present overloaded medical curriculum.

(Q. 17498.) "The examination of the eye is conducted on principles so different from those employed in ordinary surgical and medical diagnosis that the help to be gained from the latter is practically valueless: the practitioner must, therefore, be prepared at first to approach the subject with his mind wholly detached from medicine and surgery."

The number of qualified opticians is sufficient to give optical benefit to the whole insured population.

With regard to the detection of disease, the sole duty of the optician where he finds evidence of disease is to send the case to a doctor, and the witnesses maintained that the fact that the refractionist is so competent to detect diseases of the back of the eye has led to the discovery of those diseases.

(Q. 17540.) The patient is under the impression that his case is one merely of refraction, and . . . he visits the sight-testing optician in the hope that his case may be merely one of defective sight. The optician at once sees the cause of the trouble or of the symptoms. . . . If an ocular disease be present it is equally recognisable by the ophthalmic optician as by the oculist.

Amongst the recommendations of the Institute were the following: (1) That optical benefit should be extended to every insured person, preferably on a cash basis; and (2) that steps should be taken to set up a departmental committee to consider (*a*) the need of a national service of refractionists which would work under the National Health Insurance Act; (*b*) the definition of a standard of qualification for National Health refractionists.

Joint Council of Qualified Opticians.

(App. LXI. and Q. 17618–17704.)

This Council maintains a register of opticians who have passed the recognised examination, and administers a scheme of optical treatment in coöperation with approved societies. Mr. J. H. Sutcliffe, Mr. F. W. Bateman, and Dr. Margaret Dobson were the witnesses. This evidence to some extent covered similar ground to that given by the Institute of Ophthalmic Opticians. The register which is kept has no statutory force, but serves for purposes of disciplinary control. It was drawn up chiefly for the guidance of those approved societies who wanted to make use of the Joint Council's service.

With regard to the proportion of cases which come to the optician for refractive error, and which ultimately require ophthalmic treatment, one of the witnesses said:—

(Q. 17624.) Out of the 35,000 cases last year only 303 were referred for medical treatment. This is less than 1 per cent. On the other hand, I can imagine that the cases presenting themselves at the out-patients' department of an eye hospital or a clinic would, perhaps, include fully 50 per cent. of diseased cases, the reason being that such cases would not present themselves if they were not eye diseases, as nearly all eye diseases are generally obvious to the patients themselves, and therefore do not go to the optician.

Asked to develop the argument for differentiating between the eye and other organs of the body as regards persons entitled to render remedial treatment, the witnesses said:—

(Q. 17628.) With the eye it is simply a case of interposing a certain lens or refractive medium in the air between the eye and the object viewed. The skill of the optician is concentrated upon the determination of the position and the curvature of the lens. He does not add to or take away from, alter the shape or constitution of the eye any more than a cinema lantern operator in focusing the lantern has any effect upon the audience, other than that of making the pictures more or less comfortable as well as clear. Discomfort arising from an incorrect pair of glasses will be greater than any damage that could be done, as the patient can by discarding the glasses voluntarily return to his original state.

In view of this evidence, the question was asked why the witnesses objected so strongly to the unqualified optician. They said, in reply, that the unqualified man could do great harm, because he has not the training to detect an abnormal fundus. The harm that he may do is in failing to send cases to the ophthalmic surgeon rather than in supplying wrong spectacles.

These witnesses protested, as did the previous witnesses, against the action of the Ministry of Health in requiring an insured person to have a recommendation from a medical practitioner if he needed spectacles, and also against the intention of the British Medical Association to charge any doctors recommending patients to a sight-testing optician with infamous or covering conduct. They readily agreed that the ophthalmic surgeon is a higher authority on the diseases of the eye than the qualified optician, but they said that in turn the qualified optician knew more about the eye than the ordinary general practitioner. The implication in the statements of doctors that opticians lacked the necessary skill could only be due to the fact that those making them had not taken the trouble to ascertain how the qualified optician has been trained.

British Optical Association.

(App. LXII. and Q. 17705–17771.)

This Association is a training and examining body, and confined its evidence to amplifying what had been said by previous witnesses in regard to the schemes of training and examination. Evidence was given by Mr. W. B. Barker, Dr. J. McHoul, and Dr. J. L. Meynell.

During the last 30 years the Association has examined 3661 candidates, and has issued about 250 honours certificates and about 1650 fellowship certificates. The standard required of successful candidates is a high one, and on an average not more than 40 per cent. of the candidates qualify. The Board of Examiners appointed by the Council consists of scientific men, several of whom are ophthalmic surgeons. Its rules and practice are modelled upon those which prevail in the medical and dental professions. The treatment of defective eyes otherwise than by glasses is strongly discouraged by the Association, and the prohibition is enforced where necessary (like other disciplinary measures) by the withdrawal of the Association's certificate of qualification.

With regard to their high standard, the witnesses quoted from a lecture delivered in 1920 by Mr. W. S. Todd, an examiner of the Association, who was chairman of the Examining Boards of different States in America. He said:—

(Q. 17708.) I think it is extraordinarily important that the British Optical Association should be recognised. I have had the privilege of examining for the British Optical Association, and one thing that has surprised me is the very high standard of knowledge. I can speak as a member of the medical profession very much interested in eye work. When I qualified at London University I would not have known the answers to the questions that I had to ask the students at the British Optical Association's examinations.

No difficulty is experienced in securing medical men to act as examiners; on the contrary, the Association have to refuse applications from ophthalmic surgeons because their quota is full. The Association courted the fullest inquiry into their procedure and constitution.

With regard to the United States, the training is conducted at certain recognised State schools and universities in the same manner as at similar colleges of technology in this country. The State Boards of Examiners insist on attendance at those schools before they allow a candidate to sit for the examination; and in certain States the examination of the British Optical Association is regarded as part exemption from those examinations.

For the requirements of an insurance optical service, the witnesses pointed out that as against 500 ophthalmic surgeons willing to undertake the work there were 2500 duly qualified opticians.

[1] The quotation is from Ophthalmology in General Practice, by Dr. M. L. Hepburn, surgeon to the Royal London Eye Hospital.

In answer to a question similar to that put to previous witnesses as to the case for differentiating between the eye and other organs as regards persons entitled to render remedial treatment, the witnesses quoted Mr. Bishop Harman in support of the view that the eye is the only organ of the body where by direct observation its internal condition can be fully examined.

(Q. 17723.) As opticians we claim to be physicists, and to supply a proper physical appliance for the correction of a physical error. In our studies we aim, in addition to that, not at a knowledge of pathology at all . . . but a very high knowledge of anatomy and physiology, so extensive that we can immediately detect any departure from normal appearance or function and immediately refer any clients so affected to the trained pathologist. . . The use of the two words "remedial" and "treatment" in the question are misleading. The qualified optician neither prescribes remedies nor does he undertake anything but purely optical treatment.

They also said that the law, as interpreted by the Lord Chief Justice in the case of Markham *v.* Thomas, imposed upon the optician the onus of detecting pathological conditions. Ever since the decision in that particular case the optician has been very anxious indeed, in his own interests, to make sure that he had the skill and ability to detect those conditions.

ROYAL SANITARY INSTITUTE:
CONGRESS AT EDINBURGH.
JULY 20TH–25TH.

THE Congress began on July 20th with a luncheon in the Students' Union, where Mr. Ewan F. Macpherson (Scottish Board of Health) remarked on the advances in hygiene which marked the progress of the Institute. The formal opening took place in the M'Ewan Hall, the chair being at first occupied by the Marquess of Aberdeen and Temair (a Vice-President of the Institute), who read a letter from the Duke of York regretting his absence. He then introduced the President of the Congress, Sir John Gilmour (Secretary for Scotland), who recounted how many-sided were the health problems of the Government and how well they had been met. He observed that Scotland was particularly easy to manage hygienically as she had always plenty of good water near her great aggregations of population; on the other hand, it was difficult to bring nurses in touch with all patients in the scattered isles. In each of its populous centres there was a university from which knowledge of hygiene was easily spread. Prof. Lorrain Smith was much struck with the personal care people were getting from health officials; the profession was coming again into personal touch with the community on the protective side too, where they seemed for a time to have lost that touch. Alderman W. Phene Neal (London City Corporation) hoped the Congress would be specially successful, as an encouragement to London, where next year's congress was to be held. Resolutions at conferences did do good. He had voted many times asking for municipal slaughter-houses, and now the last private slaughter-houses were to be closed in London. He wondered if people in general realised that 16 per cent. only of our meat was home-grown, only 14 per cent. in London, where only one loaf in ten was of English wheat.

TUESDAY, JULY 21ST.

The *Section of Sanitary Science* was opened by Sir George Newman, the President, whose speech was reported in our last issue. The other papers were on immunity and infectious disease, and great interest was taken in the Edinburgh attack on diphtheria by the Schick test and toxin-antitoxin injection, voluntary as far as the parents were concerned, but few objected; 16 cases of diphtheria had since occurred in children, shown to be positive, but not protected. Immunisation is giving very satisfactory results.

In the *Section of Industrial Hygiene* Captain W. E. Elliot, M.P. (Under-Secretary of Health for Scotland), who presided, said the capital of a nation was mainly in the bones, muscles, and grey matter of its citizens. Without health no other wealth has value. But if the power of man, as in machines, increases without improvement of his grey matter he will perish like the huge but small-brained diplodocus and its congeners. There was great loss of work by sickness; men lost more than women from diseases of the eye and apoplexy, women more than men from diseases of veins and anæmia. Regular repetitive work is monotonous—may not the present passion for betting be the outcome of monotony? When he noted the great advances in health made in recent years, the work of physicians, he was proud that he too had been a physician. He then had to leave, when his place was taken by Lieut.-Colonel F. E. Fremantle, M.P. Sir Thomas Oliver read a paper on Dusty Occupations and their Effect on the Lungs. Coal-dust, he said, did no harm; it was the stony, gritty particles that damaged the lung, intensified if bronchial catarrh or tubercle should supervene. Arsenic miners at Schneeberg in Saxony had lately begun to suffer from cancer of the lung (arsenic miners in Cornwall do not), ascribed by Ludwig to radium emanations associated with their dusty operations. Alderman Halsted (Dursley) hoped people would not mind paying a little extra for their coal in order to increase the precautions against dust in mines. Sir Thomas Oliver, in replying, mentioned that the dustiest operation he knew was making millstones in France; the men became very thirsty, drank freely, and at 40 were old men.

Mr. Sydney Tatchell, F.R.I.B.A., read a paper on Hygiene and Industry, stressing the importance of attention to the conditions of offices and to the protection of clerks, and telling how he had remodelled a City office, particularly by removing partitions and throwing large rooms open. Councillor Julyan (Poole) said sanitary authorities should take the lead in giving their clerks good working conditions. The difficulty is clerks are not protected by the Factory Acts. Dr. C. S. Thomson (M.O.H., Deptford) said he had been asked to lecture on health at Deptford, which he agreed to do if not less than 500 came to hear, and on these terms he had given several lectures. Dr. W. J. Howarth (M.O.H., City of London) said London offices were extending into basements, very dark and airless, forbidden as dwellings. He thought the present maximum height might be reckoned to the cornice, and the storeys in the roof counted extra. One difficulty was that the people in the dark offices did not themselves complain. Dr. J. J. Buchan (M.O.H., Bradford) said education in hygiene for youths was the proper way of advance. Health visitors told him that domestic servants made the best mothers. It was clear that the others must be trained. Mr. Alexander Johnston, J.P. (North British Rubber Company), read a valuable paper on Industrial Welfare, showing how welfare work had become an integral part of management. It increased output, and produced friendliness and esprit de corps. Works councils helped to prevent accidents, and by mutual understanding led to better training.

On Tuesday evening, in the Synod Hall, Sir W. Leslie Mackenzie (Scottish Board of Health) gave a lecture on the *Problem of Psycho-physical Fitness*, which, as Sir George Newman, who presided, said, was, in other words, how to raise a fit imperial race. When, asked Sir Leslie Mackenzie, was a man fit? Fitness is a pure abstraction, but in the war a direct answer had to be given when it was found that of nine men three were fit for any work, two were on a definitely infirm plane, three could do very little, and one was a chronic invalid. We could increase the number of the fit by staying the progress of disease. Tubercle was decreasing, typhoid had been nearly banished. Rheumatism still took a great toll, for nearly one-sixth of industrial debility was due to rheumatic diseases. We should concentrate on prenatal work, infant welfare, and the health of the school child. We might, if we chose, in a generation get rid of diphtheria and scarlet fever. No one need take small-pox unless he wished. So much for physical fitness. Great

advances in psychology had been recently made, and we could work better to secure mental fitness. Besides insanity we had to guard against the obsessions, unreasoning fears, bad tempers. Insanity was itself a disorder of conduct. The child lived in a world of its own, and it was the duty of the teacher to see that it learned without a jolt to adjust itself to life with others. These shocks caused mental conflict. The feeble-minded must be segregated. Mental and physical health were parts of the same problem, the man who neglected either would fail in both. In seconding a vote of thanks to the lecturer, Dr. C. J. Fernandes (Bombay) expressed surprise that England, which had taught India to escape small-pox by vaccination, seemed itself to have lost faith in the specific. Dr. Andrew Balfour moved a vote of thanks to Sir George Newman, who remarked on the benefit of the Congress in bringing together on the same plane the servant, the medical officer of health, and his masters, the members of sanitary authorities.

WEDNESDAY, JULY 22ND.

The *Section of Personal and Domestic Hygiene* was addressed by the Marchioness of Aberdeen and Temair, (the President), who said the great difficulty they still had to face was the apathy of those whom they hoped to benefit. Certainly they were dulled by the dreadful housing conditions against which many mothers were striving heroically. The Royal Sanitary Institute was doing splendid work by increasing popular knowledge. She had had experience of the interest evoked in Ireland by travelling health exhibitions with good demonstrators. Such exhibitions proved a profitable investment for local authorities which wanted support from their constituencies. In practice it was best to start with an attack on tuberculosis, and later to show the benefits of child welfare and the values of foods. She cited the example of the junior Red Cross societies, centred in Paris, which induced children to learn health as a game, thereby speeding up the parents. She had even heard of children in Dublin eager to be the first treated by the dentist. Such was the change wrought. The Playground Association of America for old and young was doing great work. A street with little traffic was closed in the evening, a paid organiser set the children playing. After a few nights the parents began to join in. They got the whole community together to tell stories, to perform plays in the children's summer and winter holidays. This was occurring in 680 cities of the United States, with less crime and less juvenile delinquency as the result.

Dr. Joan Rose (Edinburgh) read a paper on rickets, which elicited from the members a hope that proprietary starchy foods might be forbidden by law, and an intention to combat rickets by better feeding of the expectant mother.

Dr. R. A. Lyster (M.O.H., Hants), in his presidential address to the *Medical Officers of Health*, emphasised the difficulties of dealing with mental defectives, particularly if they married, and said that sterilisation had been recommended by a committee in New Zealand. The greatest hindrance to preventive medicine to-day was the inadequate instruction of young doctors in public health. A course of State medicine was needed which would harmonise the views of the profession with the needs of those who would be working under the National Health Insurance Act. Dr. A. K. Chalmers (M.O.H., Glasgow) said that the tenement system of housing on many floors was characteristic of Scotland, the cottage system of England. But each was now developing along the lines of the other, England building blocks of flats, Scotland providing four cottages in one block, giving each house a separate entrance. They could not dissociate the higher incidence of infectious and respiratory disease in Scotland over that of Wales and England from its system of housing in tenements.

In speaking to a crowded meeting of the *Representatives of Sanitary Authorities* in the City Chambers, the Lord Provost in the chair, Lieut.-Colonel F. E. Fremantle, M.P., claimed that the Government had been systematically working out a great scheme of health administration. But there was much overlapping in the departments of Government; recruiting, pensions, housing concerned various departments, and each had to decide its own policy. There should be a unified health service under the Prime Minister, like the Committee of National Defence, advisory, not executive. He proposed, and the meeting unanimously passed, a resolution pressing the Government to set up the promised Committee of Civil Research, with special emphasis on its health activities, to be applied by the various departments of Government.

Councillor W. B. Smith (Glasgow) told of the plant set up in Glasgow for providing smokeless fuel which would, he hoped, prove a commercial success, and might in addition solve the smoke problem.

In the evening the Lord Provost, magistrates, and council held a reception in the fine rooms of the College of Art, the guests being entertained with well-sung Scottish and other songs and the music of the "pipes."

THURSDAY, JULY 23RD.

At the Conference of *Port Sanitary Authorities*, Councillor W. J. Harvey, chairman of the Edinburgh Public Health Committee, the President, said that the work of these authorities was so good that attention was rarely directed to it. But it was very important as being the "coastguard of health," and that in its inspection of food from abroad it should exclude all tuberculous meat. The conditions of sailors in ships with 120 cubic feet as the statutory minimum were intolerable. Dr. R. M. Picken (M.O.H., Cardiff) presented a paper on destroying vermin on vessels. Sulphur dioxide can kill both rats and fleas. Hydrocyanic acid is quicker and, as it kills the flea on the rat's body, is useful for identification. The general opinion of speakers seemed to be that hydrocyanic acid, though effective, was dangerous, while sulphur (1½ lb. for every 1000 cubic feet in well-sealed ships) if properly used was as effective. Dr. W. M. Willoughby (M.O.H., Port of London) contributed a most interesting paper on the suggestions of one James Augier, arraigned as a quack, to get rid of plague in London in 1665 by the burning of sulphur. Dr. Milsuzo 'Isurumi, of Japan, read papers on Pneumonic Plague, which had again arisen among the tarbagans. Fleet Surgeon W. E. Home submitted a standard death-rate for merchant seamen, and, seconded by Alderman F. Askew (chairman, Hull and Goole Port Sanitary Committee), moved a resolution asking the Council again to represent to the Government that better statistics were needed of the deaths of merchant seamen, who should be brought, for purposes of health considerations, under the care of the Ministry of Health.

The *Popular Lecture* was given by Dr. C. Porter (M.O.H., Marylebone), born and brought up in Edinburgh, who declared that higher developments of health in the future were to be attained by the constant interest of the citizen in his own health, which he will keep up by occasional visits to a doctor for investigation.

FRIDAY, JULY 24TH.

At the *Closing Meeting* it was stated that the attendance had been 1640, a record number. There were 875 delegates sent by 500 authorities.

The *Official Dinner* was held on Friday evening in the North British Station Hotel, the Chairman of the Council, Sir Henry Tanner, being in the chair. Prof. Bostock Hill, proposing the Lord Provost, magistrates, and Council of the City, the most beautiful in the world, spoke of the success of the Exhibition which had been particularly noticeable for its demonstration of women's work in hygiene and of the Scottish apprentices in plumbing. The Lord Provost, Sir W. L. Sleigh, thanked the Congress for the encourage-

ment its meeting in Edinburgh had given to preventive medicine in that city. Lord Alness, Lord Justice Clerk, proposed the delegates, and Dr. A. A. Helmi (Cairo) and Dr. J. L. Oluwole (Lagos) replied. Dr. W. J. Howarth proposed the Local Committee and thanked them for their generous and spontaneous welcome. Edinburgh was full of local patriotism and he hoped there might be as much in London next year. Councillor Harvey and Mr. Alan W. Ritchie, chief sanitary inspector, replied.

THE HEALTH EXHIBITION.

The exhibition, well displayed in the Waverley Market, was opened on Monday afternoon by the Lord Provost in the presence of 700 people. Prof. Bostock Hill, who announced the judges' awards, drew attention to the change in health exhibitions. Traps and drains were now taken for granted, and modern hygiene dealt with the individual, the school-child, and the infant. Among the exhibits were many of great value.

Queen Victoria's Jubilee Institute for Nurses showed a bed with a sick patient illustrating model nursing appliances and their substitutes as improvised for poorer homes; also the kitchen of a tenement house prepared for an emergency operation. The stall equipped by the Town Planning Committee of the Edinburgh Corporation showed a map of Edinburgh in the twelfth century; houses in a single row on each side of the High-street and Canongate, each with its garden or close stretching away behind it. The crowded closes of recent days were shown in later maps as the gardens got covered with houses and the growing city became congested within its walls. Messrs. Morrison and Son showed a most interesting enamelled iron bath and basin combined whereby the cost of plumbing was halved. It had been designed for a housing scheme and cost just below £11. There was no "overflow," the plugs of bath and basin being on a short chain, so that they could not both be closed at the same time. Messrs. W. E. Farrar (Birmingham) showed glass coverings of taps, metal concealed, and the taps of various colours to suit the bedrooms in which they might be installed. Also shown was a double trough lavatory for a factory with roses all along for hand-washing, each opened by a foot-tap. Messrs. Chance Brothers and Co. (Birmingham) showed their Calorex glass which very effectively saved the face from the scorching of a large electric light though the light came through; also Vitaglass, which lets electric light through without cutting off the ultra-violet rays. Messrs. Davidson, of Belfast, showed the Sirocco fan, which has done so much for ship, colliery, and other ventilation, and tea-drying, and was here shown removing dust from flues. Mr. James D. Bennett showed his unbreakable school desk made of iron tube, all but the bookboard and seat, in its outline, recalling a bentwood chair (bronze medal). Messrs. Fairbank Kirby (Grimsby) (they also got a bronze medal) showed their cold-drawn cod-liver oil, prepared by the method of Dr. Mellanby. Activated Sludge, Ltd., had working models showing the forcing of air into the sludge, &c., to which the Institute had awarded a silver medal. Edinburgh Corporation Gas Department showed a new gas-oven which, being set at the mark determined as suitable for the cooking in progress, prevented, by a thermostat, the temperature in the oven from rising too high. The British Women's Temperance Association and the British Social Hygiene Council showed excellent literature and diagrams for advancing their propaganda. Messrs. G. W. Harrison and Co. showed their Silent Harriap flushing cistern. A solid piston by its upward movement lifts enough water to set the syphon action going, and when it is released a copper shutter on the piston opens and allows the rest of the water to complete the flush. As the shutter and its bearings are of copper and are fixed in the piston when it is cast, it is held that the system will never be eaten away by chemical action nor require repair (silver medal). The Lacre Motor Car Co. (King's Cross, London) showed a street-sweeping brush mounted in a motor body with only a single wheel behind to facilitate sweeping out corners (silver medal). Edinburgh Corporation Electricity Department showed the baking of bread in an electric-heated oven. A remark to the manager of the stall suggesting that electricity was too expensive for cooking and other household heating, led him to say that of course it depended on the price of current, but that a county asylum had had an interesting experience. It made its own electricity originally for lighting with carbon filament lamps, but as these were replaced by metal filament, and these by gas-filled lamps, there was so much electricity to spare that the kitchen, cooking for 1000 persons, patients and staff, was outfitted with complete equipment, ovens for bread baking, fish fryers, vegetable steamers, roasting ovens, &c., that this was found to be practicable with only its existing generating plant, and the change to electricity has ever since given complete satisfaction. At stall No. 54, North British Rubber Co., Ltd. (Edinburgh and London), was seen a novel and easily cleaned teat for feeding-bottles. There is no teat; that is replaced by a grooved strip of rubber which, doubled, passes through a slot in the dome of the cap; the child has the loop in his mouth and sucks the milk easily through the channel formed by the grooves. Once the knack of adjustment has been learned there is no difficulty in cleaning the teat and putting it again in use. Silver medals were awarded to Messrs. Southall, and to Hoover, Ltd., for their suction sweeper. Messrs. Parsons, of 315, Oxford-street, London, showed panels of their enamels of wonderful brilliance which won a bronze medal.

(To be continued.)

Reviews and Notices of Books.

SURGICAL TREATMENT OF PULMONARY AND PLEURAL TUBERCULOSIS.

By J. GRAVESEN, M.D., Medical Superintendent, Vejlefjord Sanatorium, Denmark. With a Foreword by Dr. S. VERE PEARSON. London: John Bale, Sons and Danielsson, Ltd. 1925. Pp. 155. 10*s.* 6*d.*

THERE are several books and countless papers on the surgical treatment of pulmonary and pleural tuberculosis, but most of them are out of date, so rapid has been the advance in our knowledge of this subject. Dr. Gravesen's book accordingly fills a gap.

It is proper and fitting that this book should have come from Vejlefjord Sanatorium, for it has probably done more than any other institution in the world to promote the collapse treatment of pulmonary tuberculosis, and its first chief, Prof. Saugman, Dr. Gravesen's predecessor, was a conservative revolutionary, who converted the Dettweiler conception of masterly inactivity in the sanatorium into an elaborate system embracing surgery as well as medicine. During the last 20 years of his life Saugman was untiring in his efforts to bring to perfection artificial pneumothorax and, later, the operation of extra-pleural thoracoplasty, thoracoscopy with cauterisation of pleural adhesions, apicolysis, and many other daring incursions into the surgery of the lungs. Dr. Gravesen, who served as his assistant for many years, has made good use of the ample material and experience at his disposal, summarising in orderly fashion the essentials of his subject. Only by a severe elimination of unimportant details could he have condensed his matter into 155 small pages; and to those who during the past decade have attempted to struggle with the truck-loads of literature on this subject, this achievement of condensation is most impressive. The description of the technique of the induction of a pneumothorax should be read by all who would practise this treatment, and who may be tempted to approach it with imperfect equipment. A considerable part of the book is devoted to pleurisy, and as tuberculous pleurisy with effusion is often encountered by the busy practitioner, he would do well to learn the most modern methods of treating this condition, improper treatment of which may seal the patient's fate many years later. The procedure which the author recommends in such cases is gas replacement which allows of evacuation of the peccant fluid and yet maintains that compression of the lung which is most desirable at this stage. It would be interesting to learn in what proportion of cases of tuberculous pleurisy with effusion in Great Britain this simple operation of gas replacement is practised.

Dr. Gravesen duly emphasises the importance of combining sanatorium treatment with surgical activity instead of allowing the one to become a

competitor of the other. To encourage an alliance instead of a competition between these forces he foresees the need for introducing hospital-like conditions into the sanatorium, the conventional traditions of which must be modified so that in the future it will provide not only fresh air and rest, but also such widely different remedies as surgery, artificial light, chemo-therapeutic drugs, and whatever else medical research may give us in the future. In connexion with the author's reference to chemotherapy, it should be noted that he has used sanocrysin since April, 1924, without having lost faith in it, and he discusses the possibilities of combining or interchanging sanocrysin and surgical treatment. Sanocrysin is, of course, still on trial, but the surgical treatment of pulmonary and pleural tuberculosis has passed the experimental stage, and Dr. Gravesen's book will remain a standard work on this subject for years to come.

TETANY.

La Tétanie Infantile. By R. A. TURPIN. Paris: Masson et Cie. 1925. Pp. 224. Fr.16.

THIS is a work of considerable importance and interest, not all of which is indicated by the title. The scope of the book is by no means limited to carpopedal spasm, but extends to most of the symptoms commonly described as spasmophilic (*tétanie latente*), and the author's observations have important bearings on the whole question of the nature of rickets. The first part of the book consists of a summary of the numerous researches which have been carried out in recent years on metabolism in tetany, following parathyroidectomy and arising from other causes. The question of calcium metabolism naturally occupies a large part of this chapter; Dr. Turpin demonstrates the conflicting results of the experiments referred to, and asserts that tetany can no more be accounted for by a pure hypocalcæmia than by excess of guanidine in the blood.

The author's own observations are presented in the form of a comparative study of three forms of tetany: (1) arising after parathyroidectomy; (2) produced by voluntary hyperpnœa; (3) occurring in children, usually associated with rickets. The investigation was principally concerned with the alterations which take place in the electrical reactions of the affected neuromuscular units, and in the calcium metabolism. The author considers that the most characteristic feature of the electrical reactions is alteration of the chronaxie. In latent infantile tetany (spasmophilia) this takes the form of instability, usually increase. In tetany following removal of parathyroids or evoked by voluntary hyperpnœa there is a very considerable increase, which is present before the spasm develops, rises to a maximum during the attack, and diminishes as the spasm subsides. The changes which are found in the blood in tetany are described in detail, and illustrated by tables showing the hydrogen-ion concentration and calcium-ion content in a series of cases. The author's view is that the essential change which precedes the spasm in all forms of tetany is an alteration of the acid-base relation in the direction of hyperalkalinity, resulting in a fall in the ionic-calcium content of the blood, though not necessarily in the total calcium content. Treatment is to be directed to the correction of this alkalinity, and for this purpose ingestion of ammonium chloride and exposure to ultra-violet rays are the most effective measures. On the exact relation between tetany and rickets the author is somewhat reticent, though rickets appears as an almost constant feature of the cases which he describes; his work may perhaps strengthen the opinion of those who regard tetany as essentially a manifestation of rickets. A problem of equal interest is presented by the relation of neuropathic heredity in spasmophilia with the biochemical processes described in this work.

The value of the book is greatly increased by a comprehensive bibliography.

MANUAL ON MIDWIFERY.

Sixth edition. By THOMAS WATTS EDEN, M.D., F.R.C.P., F.R.C.S., Consulting Obstetric Physician to Charing Cross Hospital; and EARDLEY HOLLAND, M.D., F.R.C.P., F.R.C.S., Obstetric and Gynæcological Surgeon and Lecturer on Obstetrics and Gynæcology, the London Hospital. London: J. and A. Churchill. 1925. With plates and 393 illustrations in the text. Pp. 704. 21*s*.

THE preparation of the completely revised sixth edition of this standard text-book of midwifery has been entrusted by the author to Dr. Eardley Holland, who is responsible for the many alterations in it. Although much new matter has been added and certain parts rewritten, it has been found possible to reduce the original number of pages by 40, a relief for which the student will be grateful. The book is now divided into nine parts. Parts VII. and IX. are new. The former deals with "Diseases, Injuries, and Death of the Fœtus," asphyxia neonatorum being now included here. This is a valuable addition to the book as it represents the results of Dr. Holland's well-known investigations on this subject. He makes a strong plea to the medical profession for the adoption of the terms "live-birth" and "dead-birth" in preference to "still-birth." Pulmonary respiration and not cardiac beat is taken as the sign of the former, whereas death of the fœtus before it has breathed, even if its heart is beating at birth, is adopted as the definition of "dead-birth." In Part IX. a brief description is given of the statistics of maternal mortality, followed by an excellent account of the methods and purpose of antenatal supervision. This important section is wisely placed at the end of the book, for the student at this stage will be the better able to appreciate the great advantages of efficient antenatal care, not only to the pregnant woman, but also to the practitioner.

The management of normal pregnancy is dealt with in Part I., where new sections have been added on the functions of the placenta and on the changes in the maternal metabolism during pregnancy. Attention is here drawn to the diagnostic value of X rays, not only in the differentiation of an early pregnancy from such conditions as a vesicular mole or fibroids, but also in the determination at full term of the presentation and lie of the fœtus, particularly in hydramnios or multiple pregnancy. It is also of value in excluding premature twins or a monster in cases where a Cæsarean section is contemplated, for anencephaly is easily demonstrable, and the degree of the ossification of the bones will give some idea of the fœtal age. Three illustrative radiograms are admirably reproduced, the most interesting of which depicts the spine and leg of a fœtus at the sixteenth week. This may well be the earliest positive sign of pregnancy, but we doubt whether a negative result at this stage is of much value. The section dealing with the toxæmias of pregnancy, including eclampsia, has been largely rewritten, and Dr. Holland makes an impartial résumé of modern views. For himself he still regards routine clinical experience as a more reliable guide than biochemical investigation. Part IV. (Abnormal Labour) now includes occipito-posterior positions with extension of the head, this position being diagnosed "when the second stage of labour has lasted three hours—or less if the powers of labour have begun to fail—and there is no sign of forward rotation occurring," the position before this being dealt with in Part III. (Normal Labour). This division may perplex the tyro. A welcome description is given of Buist's pad and binder method of rotating the occiput during the last few weeks of pregnancy.

The subject of puerperal infection is dealt with in a thorough and up-to-date manner. The old division into sapræmia and septicæmia is discarded, and the infections are grouped into slight and severe, the latter with or without secondary septicæmia. "Primary septicæmia" is reserved for those fulminant cases in which the infection becomes generalised from the first. Great stress is laid on careful bacteriological

examination of the uterine contents, and an excellent description is given of the technique. Dr. Holland is not convinced that auto-infection plays any part in the severer forms, but he assigns a definite place to latent gonococcal infection. The portion of the book dealing with Cæsarean section includes a short description of the two lower-segment operations which, the author claims, are especially suitable for cases in which infection has occurred or is suspected. There is less risk of adhesion, and so far no case has been reported of rupture of a scar in the lower uterine segment; whereas in a collective follow-up investigation into 1000 cases or more carried out by Dr. Holland in 1920, it was found that rupture of the scar occurred in 4 per cent. of cases after the classical operation.

This edition of the manual bids fair to maintain its position as one of the best students' text-books of obstetrics.

MEDICAL ELECTRICITY FOR NURSES.

By HAROLD WIGG, Radiographer, Royal Buckinghamshire Hospital. London: The Scientific Press, Ltd. 1925. Pp. 196. 6*s*.

THIS little book has been written to assist the nurse in an electrical department to acquire a working knowledge of the uses of electricity for medical purposes. In less than 200 pages the author deals with physical principles, the sources of current electricity, the effects of electricity on the body, faradic, galvanic and sinusoidal apparatus, the methods of applying these currents, medical and surgical ionisation, muscle and nerve testing, radiant heat and light, X rays, static electricity and high-frequency, diathermy, and the electrical circuits in certain surgical instruments such as the cystoscope. An index of electrical treatment concludes the book. We fear that in attempting to convey to the average nurse an intelligible exposition of all branches of medical electricity and of the relevant parts of chemistry and physics in so small a book the author has undertaken an almost impossible task. He has written clearly, and in a manner well suited for the worker with some preliminary knowledge of science. For the nurse a more colloquial description and the frequent use of analogy would have been helpful.

LATIN ON THE DIRECT METHOD.

By W. H. D. ROUSE, M.A., Headmaster of the Perse School; and R. B. APPLETON, M.A., Chief Classical Master at the Perse School. London: University of London Press, Ltd. 1925. Pp. 226. 7*s*. 6*d*.

IF the teaching of languages, alive or dead, on the principles so lucidly expounded in this book were to become universal, we should hear less about time wasted on the study of the classics, and have gone far to roll away a national reproach. The results actually obtained by the direct method in the Perse school, as here exemplified, are astonishing, and the book deserves to be read by all concerned in education. It is plain that for the fortunate boys in that school the learning of Latin is not attended by terrors, but is full of lively interest.

JOURNALS.

JOURNAL OF PATHOLOGY AND BACTERIOLOGY. Vol. XXVIII., No. 3. Pp. 397–539.—The Action of Sensitised Antigen in the Production of Specific and Isophile Hæmolytic Immune Body, by T. Iijima (Tokyo). There has been a good deal of difference of experience as to whether antigens saturated with specific immune body act as efficient stimulants for antibody production, whether in other words the antigen-immune-body combination will dissociate in vivo like a neutral toxin-antitoxin mixture. The author's experiments with hæmolysins show that fully saturated red corpuscles have a very small antigenic effect.—The Nature of the Acquired Resistance to Bacteriophage Action, by F. M. Burnet (Melbourne). If a large bacterial population is acted on by a bacteriophage a small number of individuals escape the lytic action and give rise to similarly resistant descendants. d'Hérelle interpreted this as an acquisition of immunity to a parasite. The author shows that this is unlikely and explains the phenomenon in terms of the bacteriophage being a catalyst for the normal autolytic ferments which are concerned in fission, showing that the acquisition of resistance is accompanied by the production of long undivided bacillary forms. In a second paper the idea is developed that the differences between different bacteriophages are due to the readiness with which they are adsorbed on to the bacillary enzymes.—Experimental Pneumococcal Infections of the Lung, by J. F. Gaskell (Cambridge).—The Thyroid in Experimental Tuberculosis, by S. R. Gloyne (London). The thyroid in man is surprisingly immune to tuberculosis; the same is true of the guinea-pig, less so in the rabbit. Thyroid preparations have no ill-effect on tubercle bacilli in vitro nor any curative action on infected animals, nor is the natural resistance of the white rat influenced by thyroid medication. The immunity of the gland is possibly due to some anatomical cause.—Attempts to Transmit Epidemic Encephalitis to Rabbits, by J. H. Dible (Manchester). Failed in ten cases. A fresh pitfall of abnormal appearances in the brains of normal animals is described.—Immunological Notes, by A. T. Glenny, C. G. Pope, H. Waddington, and U. Wallace (Beckenham). The ratio between the in vivo and the in vitro antitoxin values is not constant as Ramon claims. In making Ramon tests care must be taken not to be misled by a non-specific flocculation which may occur at a point in the titrations far removed from the true value. The relative strength of two batches of antitoxin may vary according to the toxin used for titration. Many diphtheria toxin-antitoxin mixtures can be greatly diluted without much loss of antigenic efficiency; beyond a certain point there is no advantage in increasing the dose. Strong diphtheria toxin cannot always be relied upon to keep; dilutions made up ready for the Schick test are very easily destroyed by shaking with air; half-full bottles cannot be transported safely even a short distance. Phenol of about 5 per cent. strength destroys relatively more antitoxin than toxin in a mixture which may be thus converted from a neutral to a toxic preparation; apart from this toxin-antitoxin mixtures are stable enough. High-grade tetanus antitoxin is best produced by giving horses a few preliminary doses of toxin and then resting them for at least a month, after which they rapidly respond to further doses.—The Excretion of Water Urea and Chlorides in Experimental Oxalate Nephritis, by J. S. Dunn and N. A. Jones (Manchester). In the tubular nephrosis produced in rabbits by oxalate poisoning urea retention may be relieved by the copious administration of water and the kidney has no difficulty in excreting extra salt at the same time. It is suggested that the urea retention is due to the damaged tubules being unable to prevent the indiscriminate reabsorption of the glomerular filtrate and all its constituents.—The Relief of Experimental Arterial Anoxæmia by Compressed Air, by C. F. Nelson and P. Woodard. Anoxæmia produced by unilateral pneumothorax or the intratracheal injection of gum solution can be largely removed by compressed air at about 21 lb. pressure.—The Preparation of Certain Substituted Ureas and their Use in the Treatment of Trypanosomiasis, by T. H. Fairbrother, F. A. Mason, W. H. Perkin, and A. Renshaw (Manchester). A preparation made according to Fourneau's formula for Bayer 205 had marked trypanocidal properties on *T. equiperdum* in mice.—An Improved Method of Mounting Pathological Specimens in Flat Celluloid Cases, by C. M. Acland (Cardiff).—The Temperature of White and Black and White Rats, by C. Price-Jones (London). Useful data for 200 normal animals; the range is from 97° to 103°.—Sarcoma of the Ampulla of Vater without Jaundice Leading to Acute Pancreatitis, by H. H. Moll (Leeds).

THE LANCET.

LONDON: SATURDAY, AUGUST 1, 1925.

HOSPITAL ADMINISTRATION IN ITS BROADER OUTLOOK.

IT is 50 years since the Public Health Act of 1875, the charter of English preventive medicine, was placed on the Statute Book. A long struggle had led up to its enactment and the way for its passage had been paved by the work of pioneers who were not always popular. The efforts of Lord SHAFTESBURY, the factory legislation of the forties, the writings of CHARLES KINGSLEY, under the name of Parson Lot, and the steady education of public opinion by a host of other writers and speakers culminated in a new outlook. Finally, at the end of this period the discoveries of PASTEUR and LISTER revolutionised our views on infective disease. To read through the clauses of the 1875 Act and the statutes, such as the Rivers Pollution Prevention Act, which followed immediately after, is to get a historical view of the effort which was made by the sociologists of the day to attain to a healthy standard of living. With the passing of the Public Health Act there came to an end the age-long practice of laissez faire, which held that a man might do what he liked with his own, and that his doings, even if inimical to health, were no concern of his neighbours and least of all of the State. Throughout this initial period of reform we may trace three main lines of progress: (1) the attempt to make our expanding industrial system safe and healthy for the workers; (2) the endeavour to improve the sanitation of rapidly growing townships with their tenement dwellings—the word slum is a product of this period—which the new industries were calling into existence; and (3) the task of applying the new standards of cleanliness, sterilisation, disinfection, and isolation, which the work of PASTEUR and LISTER had introduced into infective and epidemic disease. Alongside these reforms there had been slowly growing up a public conscience on the question of poverty and destitution, and it is the modern reflection of this feeling which finds expression in the Social Service Department of the hospital.

No country in the world has witnessed such efforts as are made in our islands to relieve sickness and poverty by voluntary means, but much of this effort can only be described as indiscriminate charity; and it was inevitable that there should follow in the wake of the sanitary reforms, marking the closing years of what ARNOLD TOYNBEE termed the industrial revolution, an attempt to understand and relieve the causes and results of poverty. About the time of the passing of the Public Health Act the development of the University Social Settlements under the influence of the late Canon SAMUEL BARNETT and TOYNBEE, and the foundation of charity organisation societies, began to emphasise the importance of understanding these questions. To use the words of Canon BARNETT, it was necessary that "citizens should learn to understand the lives of each other," and so, gradually, the State came to realise, through the pressure of hard facts, that the care of its less fortunate citizens could not be left to indiscriminate charity. The legislation of this century, therefore, has seen a great increase in all measures for sociological amelioration. The care of the blind, the deaf, the epileptic, the feeble-minded, and the insane was an essential first step in the work in which our example has been followed by other nations, but we have now gone much further and have recognised that the school child, the child of pre-school age, and the expectant mother must also be the concern of the State if a healthy standard of living is to be maintained. It would be difficult to assess in actual figures the value of the great voluntary hospitals of this country in this movement, but in medical education, in research, in the high standard of clinical practice which they have maintained, the hospitals have made no small contribution. Great as these contributions have been there remains much yet to be done. Clinical practice and surgical treatment have been raised to a high level, but there is still a vast work in front of us in correlating the sociological causes of disease. In this matter the hospitals may have been slow to act, but their hands have always been over-full. It may perhaps be considered that this particular phase of a vast set of problems lies outside the scope of the hospitals' work, but at every stage in the progress of medical research, especially in clinical research, it becomes clear that the patient's habits and manner of life, his environment, his work, and his opportunities for a healthy life are intimately relevant to his treatment.

A reference to the reports of hospital almoners—those most important officers of the Social Service Department of the institution—makes this clear, especially in special departments where a preliminary sorting of cases has already taken place. The more carefully cases are followed up by home visitation and inquiry, the more it is realised that the financial side of the work forms only a small part of the Social Service Department of a hospital. It is true that the prevention of abuse soon became one of the essential needs and cardinal rules of the early days of hospital administration, but a great deal has happened during the last quarter of a century, especially as a result of the war, to alter the point of view of financial inquiry. Indeed, to a certain extent, it can be said inquiry into hospital abuse may obscure real sociological issues. The work of the Social Service Department, if it is to be interpreted rightly, is an essential part of clinical research, and from the point of view of medical education the sociological background must have a bearing on all teaching, whether clinical or preventive. General practice to-day is becoming more and more preventive and educational in its outlook, and the youngest student sees the narrow limits of the palliative measures with which a past generation had to be content. Thus the outlook is steadily changing. In the past too much stress has been laid on rules and regulations, especially negatives—the things which patients must not do. Nowadays, stress is being more and more laid on the positive educational side of hygiene. The modern patient has had an opportunity of acquiring a knowledge of elementary hygiene and physiology in school and in the popular science press, and he is keen to know the reasons for things and able to appreciate their importance and significance. The period under review has seen the introduction of many new words in sociological literature; preventive medicine is by no means the happiest of these. We need a term which is wide in its embrace of all the problems and is educational and constructive in its outlook.

CHOLECYSTOGRAPHY.

THE application of X rays to the problems of diagnosis finds ever new fields of usefulness. One of the latest is the mapping out of the gall-bladder or cholecystography. The investigation of hepatic function by means of dyes is not itself a new method, for it was introduced 12 years ago by ROWNTREE, HURVITZ, and BLOOMFIELD,[1] who administered phenoltetrachlorphthalein intravenously and noted the rate of its appearance in the fæces. The substance is removed from the circulation by the liver and excreted in the bile with the result that, in conditions where the excretory function of the liver is impaired, the appearance of the dye in the bowel becomes delayed. On account of the variable rate of action of the intestines in different individuals the test as devised by ROWNTREE was found unsatisfactory, but MCNEIL,[2] AARON, BECK, and SCHNEIDER,[3] FRIEDENWALD and GANTT,[4] and other observers made use of the duodenal tube to recover the dye, and were able to establish the method as a useful one. In normal persons the dye, given intravenously, appears in the duodenum in about 13 minutes. More recently, FIESSINGER and LONGCHAMPT,[5] working in Prof. CHAUFFARD'S clinic, have further modified this test. Giving the dye intravenously, they take a sample of blood from the patient 20 minutes later and, by a colorimetric method, observe how much of it has been withdrawn from the circulation. They point out that the kidney as well as the liver serves as a path of excretion for the substance, but, as the amount lost by this route is small, the source of error is not serious. They do, however, criticise the method in that it gives information concerning one aspect only of hepatic function—namely, the excretory process. The great practical value of the method dates, however, from the discovery by GRAHAM that radiograms of the gall-bladder could be obtained by the use of this and similar substances. GRAHAM and COLE[6] showed last year that the intravenous administration of the sodium salt of tetrabromphenolphthalein or tetraiodophenolphthalein led, in the course of a few hours, to the appearance of an opacity in the gall-bladder enabling that organ to be examined radiographically.

Clinically this method of examination, here not improperly known as "Graham's test," has been exploited with good effect at the Mayo Clinic, and Dr. RUSSELL D. CARMAN communicated to the recent International Congress of Radiology a paper (which appeared in THE LANCET of July 11th) setting out the technique adopted, and giving some noteworthy figures of its employment in the diagnosis of diseases of the gall-bladder. At the Mayo Clinic this method of investigation has been employed in more than 1100 cases during the past 15 months, and in a large number of the cases the findings have been put to the test of operation. The substances used in Dr. CARMAN'S observations were sodium tetrabromphenolphthalein and sodium tetraiodophenolphthalein, given either by oral or intravenous administration, and the gall-bladder region was examined at certain times after the administration—namely, at the fifth, eighth, and twenty-fourth hour after giving the dye. The intravenous method was found to require strict preparation and diet during the period of examination. It gives rather more dense shadows than the oral method, but it not infrequently produces some local or systemic reaction, which may be severe. The oral method does not entail any special preparation or diet, and does not give any serious systemic reactions, though nausea and purgation sometimes occur. These effects are less common with the bromine salt than with the iodine. In consequence, Dr. CARMAN at present advises the oral use of the bromine salt as a routine method, but he uses the iodine combination intravenously to check the results in doubtful cases. The usual appearance in normal cases is an increase of intensity of the shadow followed by a diminution. In regard to the results obtained in diseased conditions, Dr. CARMAN finds that failure of the gall-bladder to fill with the dye sufficiently to cast a shadow is the most important abnormal indication, though persistent faintness of the shadow is almost equally suggestive of abnormality. Mottling of the shadow may be due to gall-stones; in some cases the shadow of the stones is denser, in others lighter than that of the dye; but gas in an overlying section of bowel may give an appearance of misleading similarity. As might be anticipated, the positive findings are of more value than the negative, and normal appearances with cholecystography must not be taken as excluding disease of the gall-bladder.

The Mayo Clinic results are sufficiently striking to warrant more extended trial of the method, which promises to give results of equal value to pyelography and to the method of investigation of the kidney by X rays after injection of oxygen into the peri-renal tissues. Why certain dyes should be opaque to the X rays remains obscure, but it would appear that it is the sodium and halogen elements in them that are responsible, the linkage with phenolphthalein serving to form a molecule which is excreted by the biliary tract. Further inquiry in this direction might also repay the trouble.

[1] Rowntree, Hurvitz, and Bloomfield: Bull. Johns Hopkins Hosp., 1913, xxiv., 327.
[2] McNeil: Jour. Lab. and Clin. Med., 1916, i., 822.
[3] Aaron, Beck, and Schneider: Jour. Amer. Med. Assn., 1921, lxxvii., 1631.
[4] Friedenwald and Gantt: Amer. Jour. Med. Sci., 1923, clxvi., 519.
[5] Flessinger and Longchampt: Presse Méd., 1925, xxxiii., 873.
[6] E. A. Graham and W. H. Cole: Jour. Amer. Med. Assn., 1924, lxxxii., 613 and 1777.

LABORATORY RESEARCH IN MENTAL DISEASE.

IN his presidential address to the Medico-Psychological Association of Great Britain and Ireland, which we print in abstract on another page, Sir FREDERICK MOTT enforced on medico-psychologists the duty of practising medicine in its broadest sense. Faced with an abnormal psychic state, inquiry should be made after a bodily condition which might be acting as cause or contributory factor. The annual report of the laboratory under the direction of the Birmingham Joint Board of Research for Mental Diseases, which has just been issued, gives a good example of such inquiry. The work of the laboratory during the year ending March, 1925, has been to develop lines of research upon the basis of endocrine functions; special attention has so far been directed to the thyroid gland, and details are given of the basal metabolism determinations and the analyses of thyroid gland for iodine content. There has been an inquiry into the action of certain hypnotic drugs upon animals with respect to the physiological action and the effect upon the general health and well-being of the animals. Routine serological, bacteriological, and chemical work has been done for the clinical staff of the Rubery and Hollymoor Hospitals; chiefly from the gynæcological, ear, nose and throat, and dental departments, and also for the purpose of investigating the occurrence of a few cases of typhoid in each institution; this latter work is still in progress. One hundred and thirty-four specimens from the Monyhull Colony have also been examined, especially in relation to the recent dysentery outbreak. Other

work includes post-mortem examinations, the collection of material for histological and chemical examination, and of specimens likely to be of interest for future study. In view of the probable association between chronic sepsis and disturbed endocrine function the bacteriological work has become part of the research and has largely occupied the resources of the laboratory. The determination of the basal metabolism in the special respiration chamber has been improved upon both in procedure and in refinements of the apparatus, which has been perfected in the laboratory. There have been 60 determinations made of 22 patients and 11 nurses; and of these 4 patients and 1 nurse showed metabolism exceeding 110 per cent. of the standard, the highest being 125 per cent., and 8 patients and 4 nurses showed metabolism below 90 per cent. of the standard—the lowest, a patient, being just under 50 per cent. of the standard; the remainder are within 90–110 per cent. of the figures given in the Harris and Benedict tables for standard metabolism. One patient with defective metabolism was examined on ten occasions when only slight variations were found between 60 and 70 per cent. of the standard. The work will be made the subject of a paper for publication.

The investigation of the iodine content of thyroid glands previously carried on at the pathological laboratory of the London County Mental Hospital at the Maudsley Hospital has been transferred to Birmingham and is still in progress. Although a number of methods for the estimation of iodine are published, none of these has proved entirely satisfactory, and an original method for the accurate quantitative estimation of the iodine has been devised. It is found that there is a great variation in the iodine content—from 1½ to 44 milligrammes per gland—which corresponds fairly well with the result previously obtained as to the extreme limits but is more accurate in respect of individual cases. The chemical results are being correlated as before with the histological investigation in each case. A large number of organisms have been isolated and classified for reference by their sugar reactions. Organisms of the typhoid-dysentery class are also tested by their agglutination reactions; a few animal inoculations have been made for diagnostic purposes. Examination of sera for typhoid agglutination is to be extended to cover all the patients in the two institutions. A large number of vaccines prepared from carefully isolated identified and purified organisms are now on trial. Three cases of puerperal sepsis have been investigated by the laboratory—one of which showed at autopsy a thrombosed inferior vena cava with a generalised infection of *B. lactis aerogenes;* another showed during life a bacteriæmia of a Gram-positive coccus. From this organism a vaccine was prepared and the patient's brother immunised in preparation for a blood transfusion; transient good results in this case followed injection of aseptic guinea-pig serum-complement in conjunction with polyvalent anti-streptococcal serum.

It is interesting to note in view of the demonstrated sepsis of the mouth and nasopharynx that 23 of 36 specimens of test-meals showed no free hydrochloric acid. Examination of the fæces has revealed many varieties of organisms. Streptococci are present in many cases, occasionally in pure culture. *B. typhosus* has been found in six cases, para B in one case, *B. aertrycke* (mutton) one case, *B. dysenteriæ* "Y" in two cases (the latter from Monyhull). A large number of organisms other than *B. coli* are often found, which do not fall into the pathogenic groups by reason of their sugar reactions. *B. friedländer* often occurs in groups of cases—e.g., 9 out of 20 in one ward, and *B. cloacæ* has been found in a blood culture in one case on two successive occasions; this suggests that organisms usually considered "normal," or at least non-pathogenic, may multiply and cause disturbance in debilitated patients such as those who are commonly met with in mental hospitals. A large amount of material has been collected for histological examination, but on account of pressure of other work it has not been practicable to proceed far with this department at present. A number of blood-sugar analyses have been made of specimens taken from hospital patients in the fasting stage with a view to demonstrating cases of definite hypoglycæmia. The sugar was determined by a modification of Calvert's method. Of 78 specimens tested, 9 gave results of over 0·12 per cent. of glucose, and 29 gave results of less than 0·09 per cent., including 14 under 0·08 per cent. Other work in progress includes the quantitative estimation of the fat, lipoid, and cholesterol content of suprarenal glands obtained at autopsies and correlations with micro-chemical tests and histological structure.

The value of this steady scientific research into the physical disorders underlying mental disease is unquestioned. It is to the laboratories of mental hospitals that psychiatrists are looking for some explanation of the tangled skein they seek to unravel. At present the work is too new for far-reaching conclusions to be drawn, but before long it should be possible to correlate the findings of the various workers.

Annotations.

"Ne quid nimis."

HYGIENE IN FACTORIES.

LAST week we noted some of the more general aspects of the report of the Chief Inspector of Factories and Workshops for the year 1924. The experiment of employing women and young persons on the system of two shifts permitted by the Act of 1920 has not had a fair trial yet owing to trade depression. So far, however, as it has been adopted, difficulties of enforcement have not been experienced, some economic advantage has followed, and, in certain cases, workers have expressed a preference for this method of work. For the most part permission to work the system has been made provisional on good welfare conditions. When trade improves this interesting system will be carefully watched. The general progress in the welfare movement now fixes it as firmly established; it is spreading and broadening; dental surgeries are being started; whole time nurses are being employed; in some cases medical service is being retained; in addition to the more usual canteen and recreational activities.

Sir Thomas Legge tells of the close eye kept by his medical staff for new occupational risks as novel processes are started, and for any relaxation in efforts to prevent well-recognised industrial disease. Lead poisoning has increased, largely due to ship-breaking in which fumes from old paint arise as the plates are cut by the oxy-acetylene flame; protection here is particularly difficult. A method of detecting lead absorption by the presence of punctate basophilia, which promises to be of practical value, has been worked out by Dr. A. Sellers. The recognition of cancer among mule-spinners has led to associating the occurrence of skin epithelioma with exposure to oil in other occupations, such as machinists, engine tenters, and brick pressers. Among the spinners 20 years was the minimum exposure. There seems no reason why, now that the danger is recognised, these cases should not all be avoided. Various investigations have been made into the occurrence of dermatitis, due to dyes, alkalis, oil, sugar, nickel salts, and other things; "barley itch" among dock labourers was ascribed to *Pediculoides ventricosus*. The campaign against dust, particularly that of fine silica, is being actively pursued; a recurrence of weavers' cough, a form of aspergillosis, is reported.

The number of girls, 192,217, medically examined for certificates of fitness again exceeds that of boys, 160,534; it raises the question as to what is happening to the boys. Welcome news is given regarding the provision in all factories for first-aid, made compulsory

by Section 29 of the Workmen's Compensation Act, 1923. Response to the new requirement has been astonishingly rapid and marked by goodwill and general interest; the standard of equipment is high and such ancient and dangerous remedies as carron oil are being rapidly discarded. Education in its use is still needed, as we read that of 375 septic cases investigated, 216 had not had first-aid treatment. Notwithstanding the rapid increase in the use of electricity, accidents from this cause keep surprisingly low. The remarkable fact is reported that severe accidents at very high pressures, although causing permanent injuries, may not be fatal; thus out of 37 such cases only six were fatal. A special investigation into dust arising in dealing with grain cargoes throws the blame for the acute irritation of the upper air passages, which is experienced, upon fine hair particles derived from the grain to the exclusion of contamination with dirt and debris; the application of efficient exhaust plant should prevent escape of the dust. Recommendations are made accordingly.

The report concludes with an interesting account of the Government anthrax disinfection station for wool and hair at Liverpool. Notwithstanding abnormal difficulties during the trial period, the disinfection process which depends upon formaldehyde has proved unquestionably efficient. No case of anthrax has resulted from, or been imputed to, any of the materials disinfected, even though, from 1921–24, the material amounted to 8,300,000 lb. The cost per pound in 1924 was only 1½*d*. Unfortunately the process is not being adopted in other countries. In England the industrial anthrax problem has always concerned wool; in other countries hides and skins are more to blame. Thus in the nine years 1912–20 there were 372 cases from wool, as against 156 from hides and skins, but for 1922–24 there were only 52, as against 54. Wool sorters' disease seems within sight of abolition with us.

THE PLURAL OF VIRUS.

A GREAT pathologist once said that he thought the most fruitful and inspiring moment of his undergraduate career was his first introduction to "nucleated blastema" in which he ever afterwards found comfort at moments of stress. Everyone will have their own feelings about words and phrases which make a personal appeal to their own individuality; it might be a nice point whether one would prefer to sit under the professor of "pastoral theology" or his brother of "rural economy"; no one of taste could deliberately prefer the discourses of the professor of "American history" or of "biochemistry." And just as there are words which one is glad to meet and greet with a friendly smile, so there are expressions which almost everyone dislikes as they dislike the sight of some horrid and monstrous deformity. The disposal of human defectives is a difficult and often a repugnant business. What is to be done with verbal defectives such as the plural of virus? The word is come lately into pretty common use and for the good reason that it describes as handily as any other word a group of infective agents about whose place and nature and significance there is a certain amount of doubt. And so it becomes increasingly convenient to mention them in the plural if one is to put technical terminology to its proper use as a shorthand. But who can willingly tolerate "viruses"? The Society for Pure English, of which Dr. Robert Bridges is the moving spirit, prints in a recent tract (XIX., 1925, p. 36) a note by Mr. C. T. Onions (reproduced in the issue of the *Journal of Pathology and Bacteriology*, reviewed on another page), which concludes that there is no alternative. "Neuter pelagus and virus" is a jingle of our youth which remains with us; but the attempt to use "vira" seems ultra-pedantic and, in fact, there is no evidence that this was the classical plural, since the word is recorded only in the singular. It might be argued that the word is in fact taken from French rather than Latin; Pasteur used it a good deal and it has survived with his successors more continuously and freely than with us. But this would leave us in the undesirable confusion of having singular and plural spelt the same. There seems, indeed, as Mr. Onions says, no escape for the moment, except to drop the word altogether and think of another one. The progress of thought is always in advance of the progress of language, and the Society for Pure English has a field in the medical sciences which is inherently fertile enough, though whether it will respond very fruitfully to cultivation is another question. The meaning and real utility of such first-rate words as "antigen" become obscured and muddled through misuse, and sympathy may almost be felt with the musical comedy spirit which reduces "bacteriophage" to its final syllable.

A PATHFINDER IN MEDICINE.

Mary Putnam Jacobi was one of the first of the band of women who have taken up medicine as a profession and she met with the opposition from her family which most women pioneers did meet with. The story of her life is told in two volumes[1] which have recently appeared. She was the daughter of George Palmer Putnam and Victorine Haven his wife, George Putnam being a member of the well-known publishing firm. His mother was Catherine Palmer, a sister of whom became Mrs. Peabody, and one of Mrs. Peabody's daughters became the wife of Nathaniel Hawthorne. Mary Putnam was born in 1842 in London to which city her father had come to establish a branch of the publishing firm. The project, however, did not eventuate and the family returned to New York. Mary Putnam had made up her mind to enter the medical profession, but found few facilities in New York for acquiring any medical education, although she was able to take a degree in 1863 from the New York College of Pharmacy. Two years previous to this her father had asked her to postpone her medical studies. Between 1861 and 1863 occurred the Civil War in which George Haven Putnam, Mary's brother, served. He broke down in health and his sister was allowed to go to Brashear City, near New Orleans, to nurse him. On this her father, although still disapproving of her going on with her medical studies, did not withhold his consent. "I am willing," he writes in 1863, "that you should apply them (your abilities) even to the repulsive pursuit (for so it is in spite of oneself) of medical science." After a good deal of difficulty she was allowed to enter as a student of the Paris Faculty of Medicine, and in 1868 she attended the École de Médecine, being the first woman student of that venerable institution. This school, which obtained a separate building for itself in 1281, occupied for a period a house at the corner of the Rue de la Bucherie and the Rue de l'Hôtel Colbert, inaugurated by the anatomist Winslow, who taught there. This was in 1745, but by 1775 the building had got so out of repair that the school moved to the Rue de St. Jean de Beauvais, where Mary Putnam studied. She was admitted a Doctor of the Faculty in 1871, and in the meantime was fortunate enough to meet a number of interesting people, amongst others she became very intimate with the Réclus family. She was in Paris during the siege and the Commune. Her letters throughout her whole stay are bright, witty, and informing, and like a true woman she writes a lot about her clothes. After Paris she returned to New York, where she practised more or less continuously until her death in 1906.

The companion volume contains a carefully edited selection of Mary Jacobi's writings. The earliest of these take the form of letters from Paris to the *New*

[1] Life and Letters of Mary Putnam Jacobi. Edited by Ruth Putnam, with a foreword by George Haven Putnam. Mary Putnam Jacobi: A Pathfinder in Medicine. With Selections from her Writings and a complete Bibliography. Edited by The Women's Medical Association of New York City. New York and London: G. P. Putnam's Sons. 1925. Pp. 381–521. 15*s*. each.

York Medical Record, beginning in 1867, when the writer was 25 years of age, and continuing to 1871, the year of her graduation. For so young a writer they show much accurate observation. One of the most interesting is a précis of a paper read by Mr. Rodet before the Imperial Society of Medicine at Lyons in July, 1867, upon the question of the contagiousness or otherwise of cholera. The meeting apparently came to no conclusion on the matter, but on the question of treatment Dr. Jacobi quotes from Rodet a prescription used by Mr. Lisle, physician at the Marseilles Insane Asylum, which was seriously affected by the epidemic of 1865. It consisted in the administration of copper sulphate. Dr. Jacobi gives the formula, but has unfortunately forgotten to give the dose. Before trying this remedy Rodet lost 12 patients out of 14, but after he began to use it he had 25 recoveries out of 32 cases. The use of copper sulphate has apparently dropped out, but the salt is well known to have a marked power of inhibiting the growth of low vegetable organisms, and a mere trace of it will keep a tank of rainwater free from algæ. Other papers are addresses mainly dealing with women in medicine, such as that reprinted from the *North American Review* for January, 1882. The final paper is pathetic, for it is the account written by herself of the early symptoms of the meningeal tumour compressing the cerebellum, from the effects of which she died. The record begins in 1896 and is continued down to 1903, three years before her death. Sydenham died from an acute attack of gout, a disease from which he had suffered all his life, and his treatise upon which is his chief work; but we have no parallel to a trained medical woman deliberately sitting down to chronicle the progress within herself of a disease which she must have suspected from the first would prove fatal.

OLIGURIA FOLLOWING BLOOD TRANSFUSION.

SETTING aside the avoidable danger of incompatibility, to which Dr. E. L. Hunt called attention last week in our correspondence columns, blood transfusion is only rarely responsible for results which endanger life. F. W. Barcroft[1] has recorded a case of oliguria following transfusion. A woman, aged 49, was rendered anæmic by metrorrhagia due to an incomplete abortion. Prior to curetting she was transfused 400 c.cm. by the Unger method. Tests had shown that there was no agglutination or hæmolysis of the cells of either donor or recipient. The transfusion was followed by a rigor. During the nine days following operation only 35 oz. of urine were secreted. The daily amount varied from 1 to 6 oz. The urine was clear, specific gravity 1010, and contained a trace of albumin. All attempts to increase secretion having failed and the patient's condition being desperate, both kidneys were decapsulated under gas and oxygen, the operation lasting 20 minutes. On the tenth day 9½ oz. were secreted and increased daily, reaching 51 oz. on the fourteenth day. Recovery ensued, but was complicated by a suppurative right parotitis and by a right lumbar intraperitoneal abscess, due to opening and infection of the peritoneum during the hurried decapsulation. Eight cases of extreme oliguria, or anuria, following transfusion are mentioned by Barcroft. Six cases died. Hæmaturia or hæmoglobinuria occurred in several of the cases. In most of the cases preliminary tests had shown compatibility of the bloods of the donor and of the recipient, but in some of the cases tests, performed after occurrence of oliguria, showed incompatibility, there having been errors of technique in the preliminary tests. In one case of pernicious anæmia two transfusions were made from one donor without complications. A week after the second transfusion a third transfusion was performed, this time from another donor. This was followed by anuria for 48 hours. The patient recovered from the anuria, but died of the pernicious anæmia. The bloods of both donors were compatible with the patient's blood, but when the bloods of the two donors were tested against each other hæmolysis occurred. Decapsulation in nephritis, performed by Harrison in 1896 and by Edebohls in 1901, has not been generally adopted. Bessensen, in November, 1924, stated that after decapsulation 65 per cent. improve, 20 to 25 per cent. remain in statu quo, and 5 to 10 per cent. die. He considers that, in nephritis, decapsulation is only of temporary benefit and is a procedure of necessity rather than of choice.

[1] F. W. Barcroft: Annals of Surgery, April, 1925, p. 733.

THREE HOSPITAL PHARMACOPŒIAS.

WE have heard it said that the "push-bike" is the piece of machinery approaching nearest to perfection which has yet been invented by man; for whereas formerly there were many varieties, now one type is dominant, and this type has remained constant for many years. On the same principle hospital pharmacopœias must also be approaching perfection, for in outward form they are very similar. Internally they do vary somewhat, but not to any striking extent. In the three examples before us there are, however, a few slips. We note *Sippey* for *Sippy*, *carbonis* for *carbonatis*, and the students' old error of taking *folia* as singular and declining it *foliæ*, *foliarum*. The London Hospital book opens with some minatory rules, which include the words: "Residents, in their prescribing are confined entirely . . ," on which immediately follows an excellent antidote table. The pharmacopœia itself includes the preparations of the B.P., an arrangement which increases its bulk and its usefulness. A handy summary of the Dangerous Drugs Act is placed at the end of the book, where it is easy to find. The West London Hospital separates its hospital preparations from those of the B.P., giving the latter as a list of doses. The London Temperance Hospital does the same, without giving all those of the larger work. Both of these hospitals go further afield with directions of a general nature. The West London tells how to bring up babies, how to arrange the sanitary condition of the home, and how to give Lenhartz, Sippy, and Graham diets. The Temperance Hospital describes preparation for operation, gives directions for cases of ringworm, and for the management of rickety children. As becomes a Temperance Hospital, there is a note that house surgeons and house physicians must not prescribe brandy and other beverage alcohol on their own responsibility. All three pharmacopœias are as nearly perfect as can be.

SCIENCE AND MISSIONARY WORK.

IN the current issue of the *Journal of the Cambridge University Medical Society* there is an interesting paper by Dr. J. Howard Cook, in which many instances are given of how science has aided the work of missions. Missionary work was from the start a prominent part of the Church's task, and although it did not extend beyond the limits of the Roman Empire during the first five centuries or so of the Christian era, those limits were roughly the limits of the known world, within which disease of all types was rampant. But as early as the sixth century the Nestorian Church pushed as far as Malabar, and by the eighth century China was reached. In the thirteenth century the Orthodox Church of the East had arrived in Persia and the Armenian Church in India, while a little later the Dominicans and Franciscans were at work in Northern Africa. The Jesuit missions of the sixteenth century and after are too well known to need more than mention, and from the seventeenth and eighteenth centuries and onward our own country exhibited active missionary effort. Therefore, for more than 1000 years missionaries have laboured subject to the plagues and pestilences of their centres of work. The records of deaths from disease amongst missionaries are scanty, but there can be no doubt

that disease took a large toll of life from these brave messengers, whose aims in recent days have been furthered by the advance of medicine. Most people welcome a religion if they can obtain some material good from it, and there can be no doubt that the benefits obtained from the cure or prevention of such diseases as malaria, plague, and sleeping sickness have proved, at any rate in primitive eyes, practical testimonials to the value of Christianity. Science has shown the way by which mission hospitals may bring healing to stricken multitudes, and Dr. Cook quotes some striking examples here. In the period 1901–1904 sleeping sickness was responsible for 200,000 deaths in Uganda, the mortality being practically cent. per cent. Missionary work was at first hindered, for the natives said, "Christianity has brought us the sickness." But preventive methods on the lines advocated by Castellani and Bruce were instituted, and the following figures for the kingdom of Buganda show the results: Deaths for 1905, 8003; for 1910, 1527; for 1915, 3; for 1917 and subsequently, none. Such results obtained by Christian teachers naturally disposed the native to a patient hearing. The power that may be obtained by an ethical leader who can cure or prevent disease is dramatic, and modern science is aiding the coming of the time when "all shall be one" in no uncertain manner, not only by disposing the hearts of people to receive Christianity, but also by rendering the lives of devoted workers far more secure than of yore.

"COLDS."

SCIENTIFIC interest in a disease is apt to vary directly with its rarity, so that minor maladies, and in particular the common cold, do not receive that attention in text-books of medicine which their prevalence would appear to warrant. Of recent years the common cold, however, has been studied more assiduously and in particular from the standpoint of prevention. Dr. Leonard Hill and Dr. Argyll Campbell devote a chapter in their new book on "Health and Environment"[1] to the cause and prevention of "colds." They summarise the supposed causes of "colds" under five headings: chills and draughts, certain conditions of the weather, irritation of the respiratory mucous membrane, infection, and bad ventilation. Each of these supposed causes is then discussed in turn. Exposure by itself will not cause "colds" in healthy individuals, as is shown by the immunity to these disorders enjoyed by Arctic explorers and fishermen at sea. If, however, a person is already infected there appears to be some slight derangement of the heat-regulating mechanism, so that he feels a draught of cold air more easily than a normal healthy person and attributes a "cold" already "on him" to this cause. Cold, dry weather and strong drying winds do not favour epidemics of "colds," while unfavourable weather conditions, such as a high relative humidity of the atmosphere with a variable temperature, certainly do. Irritation of the respiratory mucous membrane by dusts and chemical irritants is also a cause of "colds," while a certain section of the community appears to suffer from a nervous derangement of the nasal mucous membrane, so that sudden changes of temperature and atmosphere may produce an acute paroxysm of rhinorrhœa. While "infection is not the whole story," there is no doubt about the importance of this as a cause of the common cold, and such factors as closeness of contact, duration of contact, and general conditions of ventilation vary for this as for other bacterial infections. In the opinion of these two authors, however, bad ventilation is the commonest cause of "colds." Warm, stagnant air produces a congested, swollen appearance in the nasal mucous membrane, which becomes covered with thick secretion and affords a weak spot for bacterial attack. In cool air, on the other hand, the membrane is pale and taut and well moistened with secretion. Added to the hot air so often present in the upper layers of a badly-ventilated room is the occurrence of cold air near the feet. Thus "cool breezes blowing round the head, the radiant heat of the sun, and a warm ground to stand on are the ideal outdoor conditions." The reverse of this which produces cold feet and stuffy heads is said by these authors to be present in the House of Commons! If these elementary facts about ventilation were appreciated a great many "colds" would be prevented. Dr. Russell L. Cecil, in a little popular book on this subject,[2] emphasises this, pointing out that the "non-contagious cold" largely depends upon the condition in which we keep our nasal mucous membranes. Besides dealing with the more common methods of treating "colds," Dr. Cecil describes the chlorine treatment, in which chlorine gas in a concentration of 0·015 mg. per litre of atmospheric air is inhaled by patients either in a special chamber or from an apparatus which delivers this concentration through a paper face-piece. This method, based upon the fact that no cases of influenza occurred amongst the workers in a chlorine plant during the epidemic of 1918, seems to have a certain amount of vogue in America, and Dr. Cecil speaks well of the results. The relationship between influenza and the common cold as suggested by this therapeutic measure is an aspect of "colds" which is especially dealt with in a review of the literature on influenza and the common cold by J. G. Townsend, published by the United States Public Health Service.[3] It is claimed that the association between influenza and minor respiratory disturbances, especially that known as the "common cold," is "more intimate than has been recognised or conceded." The Public Health Service arranged in 1923 to receive fortnightly reports from 10,000 persons in the United States as to whether they had suffered from any of these minor respiratory disorders during the period in question. The final analysis of the material thus collected may help to elucidate the problem.

[1] London: Arnold and Co. 1925. Pp. 208. 12*s.* 6*d.*

PORTRAIT OF SIR JOHN MACALISTER.

THE Council of the Royal Society of Medicine has opened a fund to commemorate the 38 years of service of Sir John MacAlister as secretary of the Society. The memorial is to take the form of a portrait or bust to be placed in the Society's house. A letter has been sent to all the fellows and members of the Society. The Council believes that others outside the Society who appreciate the great work done by Sir John MacAlister in amalgamating 18 medical societies into one corporate body will desire to contribute to the portrait fund. Subscriptions should be forwarded to the hon. treasurers, Royal Society of Medicine, at 1, Wimpole-street, London, W. 1. These will be acknowledged in detail in our columns. The first well-supported list accounts for £615.

RETIREMENT OF SIR WILLIAM HAMER.

THE large number of medical men, hygienists, and officials who have come into relations with Sir William Hamer, Medical Officer of Health to the London County Council, will learn with sincere regret of his impending retirement. It is 33 years since he became Assistant Medical Officer to the Council under the late Sir Shirley Murphy, succeeding his chief as Principal Medical Officer in 1912. During that long period he has used devotedly his talents as epidemiologist, statistician, and organiser in the public service. He will carry with him into private life the good wishes of all who know the thoroughness and efficiency of his work, and who have experienced the courtesy of his methods.

[2] Colds: Cause, Treatment, and Prevention. By Russell L. Cecil, M.D. London and New York: Appleton and Company, 1925. Pp. 111. 4*s.* 6*d.*

[3] Supplement No. 48 to Public Health Reports, 1924.

Modern Technique in Treatment.

A Series of Special Articles, contributed by invitation, on the Treatment of Medical and Surgical Conditions.

CXXXIII.

THE TREATMENT OF IRREGULAR TEETH IN ADOLESCENCE.

OUR knowledge of the causes which produce malrelationship of the teeth and jaws is still very imperfect, but that knowledge is slowly increasing, and to the majority of workers in the field of orthodontics it is becoming evident that maldevelopment and lack of coördination of the factors governing growth account for by far the greatest number of malocclusions. The further back these causes are traced the surer becomes the conviction that treatment should be commenced far earlier than at one time was considered necessary.

Preventive Orthodontics.

Many cases are on record whereby successful treatment of the deciduous teeth at 3–6 years of age has rendered further movement of the permanent teeth unnecessary. No cases, so far as I know, have been described where a definite effort has been made so to influence antenatal development that the resulting child has been successfully reared with normal occlusion. Indeed, it would be difficult to prove to the scoffer that careful supervision of antenatal conditions helped to produce a normality which might occur in any case. The fact, however, that malocclusions have occurred even under a most favourable environment would tend to show that mixture of races and inherited tendencies must not be forgotten when considering this problem. Attention should be drawn to the work of Harold Chapman, who, in making an effort to trace the causes of malocclusion, has been studying the teeth and jaws of members of the same families reared under similar or different environment, and other workers are being enlisted to enlarge the scope of this investigation.

One of the causes which leads to a grave complication which intelligent foresight could so easily eliminate is the loss of space in the temporary dentition caused by the reckless extraction of deciduous teeth, and it is surprising that so many operators have so little regard for this important point. It is not to be denied that septic temporary teeth are a specific source of danger to the whole organism and can rarely be treated satisfactorily, but it is reckless prematurely to remove deciduous teeth without restoring lost function and retaining the interproximal space. The dental surgeon who impresses on parents and teachers the value of a healthy deciduous dentition, and carefully conserves those that come under his immediate care, may thus be regarded as a practitioner of preventive orthodontics.

Diet.—The careful preservation of the temporary teeth through the agency of well-thought-out diets, attention to general health, and oral hygiene is the ideal to be aimed at, supplemented, if necessary, by simple conservative treatment. For infants breast feeding should be urged, the child's mouth being cleansed after each feed with a soft piece of muslin, wrapped round the little finger and dipped in normal saline solution. The desirable diets for young children have been thoroughly worked out by Sim Wallace and Harry Campbell among others; the reader is referred to their works for more elaborate details and arguments which are beyond the scope of this article. Suffice it to say that the chewing of hard foodstuffs should be arranged and wholemeal bread, crusts, and toast used freely. Most children enjoy biting hard things, and can easily be trained to do so. It will be found that they refuse to swallow lumps of food unless unduly hurried by an impatient nurse. Every meal should end with some form of sweet acid fruit, a little orange-juice, grated apple, or squeezed grapes when the child is very young; as a child gets older the quantity and method of preparation can be varied.

Oral Hygiene.—Sweetmeat eating is a habit forced on children by indulgent parents and relations, and becomes a most pernicious one; some of the most dreadful ravages from caries have been seen to result from giving a child a chocolate "to go to sleep with." The mouth and teeth should always be cleansed most carefully after the last meal at night, which must always be finished with fruit, and nothing at all given after. In the very young probably the cleansing is done most efficiently by training a child to rinse and gargle vigorously with plain cold water or normal saline; antiseptic washes and tooth-pastes should be avoided. Teach a child to use the buccinators from the earliest age, and the tooth-brush, which really needs very skilful use to be efficient, can be eliminated. When used, tooth-brushes should be the smallest made. Most manufacturers make tooth-brushes far too large, and adults would do well to use what are called children's brushes.

When brought up on these methods it will be found that until children go to preparatory schools, where such simple means of preventing dental caries are not appreciated, the deciduous teeth survive their full term of usefulness without a spot of decay, and the jaws are developed within the limits of their inherited possibility. It must not be forgotten that the first permanent molars appear at the age of 6 and ultimately become the oldest inhabitants of the mouth, with the greatest chance of becoming carious. According to the readings of Friel's dynamometer these are the teeth round which centres the greatest masticating stress. The utmost care should therefore be employed in the constant inspection and conservation of these teeth.

Treatment of Established Irregularity.

We are often called upon to give advice in cases where, through ignorance or possibly unfortunate environment, the patient has suffered a loss of growth that can never be restored and the apical base of Franke and Lundström is permanently reduced in size. It is then very doubtful if tooth movement alone will relieve permanently the overcrowded denture. The treatment of children of 13–14 years of age suffering from malocclusion, who have been deprived up to that time of any but the most primitive kind of dental service, is a difficult problem. Dolamore has shown that the most desirable ages for some forms of treatment, for example, when endeavouring to cure excessive overbite by means of a biting plate, are those which correspond to the most active periods of bone growth, that is to say, during the eruption of the first or second permanent molars, and should the latter teeth be late in erupting it may be quite feasible to undertake a line of treatment that would be doomed to failure in a child of more advanced development. It must be recognised that the physiological age of an individual does not necessarily correspond with the actual age. The dental surgeon in England is hampered by the boarding-school system of education, for children are mostly seen infrequently, if at all, during the school term, and dental apparatus of any kind must be so strongly constructed as to withstand a good deal of hard wear without supervision or repair. In this respect girls, who are still sometimes educated at home, have the advantage, and this is fortunate in that parents of girls are, as a rule, more concerned about disfigurement.

Another important practical problem that has to be faced is the length of time that may be involved in a course of treatment. Most authorities agree, although this idea has been a matter of controversy recently, that tooth movement should be slow enough and gentle enough to produce bone growth concurrently with that movement, thereby shortening the period of retention. The prognosis in adolescent cases is always obscure, because it is difficult to study the action and reaction of the different groups of muscles of the masticating face, and to ensure an harmonious

coördination between them. If muscle exercisers such as Rogers recommends are used, it is only in exceptional cases that such treatment can be carried out without close supervision. If, for instance, a child is even a partial mouth-breather the group of muscles concerned in closing the mouth is necessarily kept below par for that individual, but muscle exercisers require regular and constant use and make almost impossible demands on an unwatched or unencouraged child. Much may be done in treating the disability of mouth-breathing by the insertion of an "anti-mouthbreathing valve," to be worn at night with the object of re-establishing the habit of nasal breathing after nasal stenosis has been eliminated. Rhinologists often overlook the fact that mouth-breathing persists as a habit even after the nasal airway has been rendered fully patent.

All cases will not, of course, yield to the same treatment. Cases of post-normal occlusion of the mandible with proclination of the incisors are reported successfully treated at the age of 15, and after, without extraction. But, on the other hand, many are known to have reverted that have been treated at a still earlier age. This type of case is often accompanied by a marked "over-bite," the mandibular incisors impinging on the gum behind the cingula of the maxillary incisors. After the second molars have fully erupted it would seem of slight avail to make any attempt to "raise the bite." If the canines are late in erupting and occupy a high position external to the arch the sacrifice of the first upper premolars will often produce a satisfactory result without any supplemental treatment. If at the age 13 to 14 lower incisors are markedly imbricated, showing a developmental lack of bone growth uncomplicated by post- or pre-normal occlusion, the removal of the most lingually placed incisor will often improve the appearance when the attempted retention of all the teeth would involve expansion of both jaws, a long process, and at this age of doubtful utility. Similarly, if second premolars have been allowed to erupt inside or outside the arch, it is doubtful if it is advisable to attempt to regain the lost space and place such teeth in their correct positions in the arch. But there are many cases where the occlusion, which always has to be most carefully studied, will not permit the success of this simple treatment, and misplaced teeth, even after the extraction of others, must be guided into the desired positions with extra mechanical help. Great care should be exercised to make this aid efficient—the mere "wearing of a plate" will not work miracles; any apparatus worn must be designed with intelligence and adjusted with skill. At this age cases of post-normal occlusion of the mandible with proclination of the incisors are probably treated best in this way. Prenormal occlusion of the mandible is usually accompanied by lack of development of the premaxilla, and any treatment undertaken must be accomplished with the additional aid of mechanical appliances.

Although there are many cases of all types that have been treated successfully without extraction at the age-period under discussion, intelligent use of the forceps with or without supplemental treatment would seem to offer the surest means of obtaining a reasonably æsthetic result with far less fear of relapse than any other method.

G. NORTHCROFT, O.B.E., L.D.S., D.D.S.

WOMEN'S HOLIDAY FUND.—For thirty years the Women's Holiday Fund has been engaged in the work of sending away tired women living in the poorer districts of London for a fortnight's holiday at the seaside or in the country. Each applicant contributes something towards her expenses, the average payment made being one-third of the total cost, which is about £2 17*s.* 6*d.* for a woman, and £3 7*s.* 6*d.* for mother and baby, for two weeks. The committee are making an emergency appeal this year for the sum of £4000–£5000 to purchase a holiday home for mothers and babies, the lease of the one they rented at St. Leonards for this purpose having terminated in 1924. Donations will be gratefully acknowledged by Miss G. Cooper, Secretary, Women's Holiday Fund, 76, Denison House, Vauxhall Bridge-road, S.W. 1.

Special Articles.

SOME GENERAL REFLECTIONS ON PUBLIC HEALTH ADMINISTRATION.

BY J. H. L. CUMPSTON, M.D. MELB., D.P.H. LOND.,
DIRECTOR-GENERAL OF HEALTH, COMMONWEALTH OF AUSTRALIA.

III.—THE PRIVATE HEALTH AGENCIES.*

IN view of the trend of evolution in the United States, and, to a certain extent, in other countries and in the international field, it is interesting to examine the significance of some important developments leading towards the displacement of the legally constituted governmental authority from its proper place in control of existing public health activities and at the head of public health progress. Various private agencies have entered into the field of public health and have assumed, especially in the United States, an importance which is, for those who have not seen the conditions, difficult to realise.

There are four classes of unofficial agencies all having an influence on the evolution of public health in the United States more weighty than that of the official Government departments.

(*a*) The great foundations which have been endowed by wealthy people with large funds for the purpose of promoting the welfare of the community in some way or another, such as the Rockefeller Foundation, Commonwealth Foundation, and others similar.

(*b*) The various associations and societies which have been formed, such as the National Tuberculosis Association. These are membership societies composed of individuals, interested in some form or another of public health activity who have formed themselves into societies for the promotion of their particular interest.

(*c*) The American Public Health Association, which has a large membership mostly of persons engaged in some form of public health activity as their professional career.

(*d*) Agencies which have become interested in public health because of a direct business interest in the success of such work. The most notable of these is the Metropolitan Life Assurance Society, which now spends a very large amount of money annually in public health activities of a very specific and direct nature, on the ground that any improvement in the general standard of public health is financially to the advantage of the company in its life assurance activities.

Range of Private Enterprise.

These agencies are engaged in a wide variety of enterprises, ranging from what are known as demonstration campaigns, through actual field operations, to definite standardisation activities. As examples of these—

(*a*) The Metropolitan Life Assurance Company was engaged for seven years in a "health and tuberculosis demonstration" campaign at Framingham, the object of which was to demonstrate the principal factors in the spread of tuberculosis and the principal methods for its control, as well as making a general health survey.

(*b*) The National Tuberculosis Association operates, through its branches, a number of tuberculosis dispensaries, employs many tuberculosis nurses, and carries on similar activities directed towards the control of tuberculosis.

(*c*) The National Association for Child Hygiene has taken the lead (together with the Metropolitan Life Assurance Co.) in promoting the compilation of a survey of the health status of 83 of the principal cities in the United States.

(*d*) The American Public Health Association has actually compiled standards for the laboratory examination of milk, water, and sewage which have now been accepted by all official health departments.

The International Health Board stands in a class by itself because of the large amount of its endowment resources and because of its international scope. Notwithstanding its international application it is very closely associated with many activities within the United States—e.g., it subsidises many of the

* Parts I. and II. appeared in THE LANCET of July 11th and 25th respectively, and the concluding part will appear in a subsequent issue.

private membership associations, it provides funds for the building of schools of public health in universities, and it provides funds and staff for the inauguration of county health units, operating under the jurisdiction of State health departments. In one State at least an officer of the International Health Board staff is acting as an officer of the State Health Department, being loaned and financed by the International Health Board. It would appear to an outsider that these private agencies in the United States are more active than the official governmental agencies, although perhaps this appearance is due to the receipt by the private agencies of greater publicity. Their exact position in the scheme of public health activities challenges the inquiry of any visitor who goes to study the public health system of the United States.

Its Course of Development.

Notwithstanding considerable inquiry it is not easy to gain a clear or comprehensive conception of the conditions which called these agencies into being or an intelligent appreciation of their exact course of development. It would appear, however, that while in some States there has been for many years a strong realisation of the duty of the State Government to establish and maintain a modern health department in accord with the developments in scientific knowledge, in other States there has been a less complete realisation of the responsibilities of the State Government and a corresponding lag in the development of public health activities. In these latter States interested citizens have taken the lead in one or other directions, such, for example, as child welfare, tuberculosis, &c., and by the formation of societies, the enlistment of public interest, and so on, they have supplied the community with the institutions and equipment necessary for the public health, which the governments had failed to provide. This, however, is not the whole story, as these societies have come into being and have become active in States where the necessity for public health activities has been acknowledged by the Governments in practical form. For example, in Massachusetts the public health reform movement in the United States commenced with a vigorous crusade, arising out of the Massachusetts Sanitary Commission in 1850, which led to the introduction of many valuable public health activities and set a standard which has influenced public health development throughout the United States until now. Despite this, there is seen to-day in the city of Boston the interesting development that the city government provides a building, with caretaker and light services, for the housing of certain private societies to which it has, in fact, delegated its responsibility in respect of certain public health functions.

So, throughout the United States, there are seen: tuberculosis being dealt with by the tuberculosis associations; child welfare (including the management of baby clinics) by the child hygiene associations; the actual administration of health responsibilities of the State being delegated by statute to the Alabama State Medical Association; and certain county health departments being staffed by, and partly financed by, the International Health Board. The International Health Board invariably makes it a condition of its coöperation that the State or local community, as the case may be, shall contribute half the cost and agree to, or request, the coöperation.

Criticism of the Private Agencies.

The impression is that there are certain advantages and certain disadvantages attending this complex series of activities, and it would be desirable, in view of developments elsewhere, to consider these.

The advantages, as they were stated, may be summarised as follows:—

1. Private benefactions have provided larger amounts of money for public health than would probably have been available from public taxation.

2. Private agencies feel that they are freer to try experiments, and possibly make failures, than would be a government department.

3. Private agencies can use more unrestrained methods of publicity and public education than can a governmental department.

4. Private agencies reach the ear and sympathy of the public more completely than a government department.

5. By the provision of financial assistance active governmental agencies are enabled to undertake operations which they could not otherwise finance.

The apparent disadvantages may be summarised as follows:—

1. Several agencies in one community are apt to find themselves bidding against each other for (*a*) subscriptions, if in need of funds; (*b*) opportunities to work without competition, if well endowed.

2. If events do not move in the direction the particular agency desires, it is almost inevitable that the agency finds itself (or its officers) committed openly or engaging less obviously in intrigue to induce the Government or the officers of Government to adopt the policy which the agency concerned is advocating.

3. The officers employed by these private agencies or foundations are often persons trained only in a limited field, without any proper training in public health as a whole, and without any experience of public health administration. Public health requires, as an essential for efficiency in its servants, a reasonable appreciation of the whole field of influences which may affect the human individual, and this wide view is not attainable by the system of limited training necessarily adopted by these agencies whose activities are limited by the self-imposed limitations of their field.

4. The abundance of financial resources is in itself an embarrassment. These associations are almost compelled to find means for expending their income, and it has frequently happened that they have inaugurated institutions and campaigns at a rate of expenditure per head of the population concerned which is beyond the normal expenditure-out-of-taxation-revenue capacity of that population. When this has happened either the venture has quietly lapsed or the association or foundation concerned has been obliged to continue the venture out of its own resources.

5. Those associations which are not financially independent find themselves obliged to frame their policies along lines which will assure them of further public financial support and it may be regarded as problematical whether this does not offset the advantage, claimed above, of freedom to try experiments not influenced by political control.

6. It has happened that the associations or foundations have started activities in some communities, either with or without coöperation from the local government, but have found, when they wished to discontinue or to hand over administration to the local people, that the local community was not prepared to assume control; and the initial enthusiasm (sometimes artificial) having evaporated, a permanent result proportionate to the expenditure of energy and money has not been attained.

7. Finally, there is the fundamental objection which is always inseparable from all "easy money." No community can obtain lasting profit from anything which it does not earn by its own efforts. With a community, as with a person, the acceptance of a gift of this kind induces one of two attitudes—either that of the "borrower being servant to the lender," or the care-free laxity of the dependent who finds his needs supplied without any effort of his own. Either attitude is prejudicial to the vigorous growth of any community.

Trend of Events in the U.S.A. and New Zealand.

There are sufficient signs of the trend of events in the United States which should act as sign-posts for the road to be travelled in other countries. The necessity for correlating the activities of the various societies, associations, and foundations has led to the formation of a National Health Council, which represents a kind of group-management of policies without any organic unity. The associations represented on this Council are ten in number. These have now grouped their head offices in the one building, and it is significant that the New York branch office of the United States Public Health Service has its office in the same building and on the same floor as the National Health Council. This Council, or its components, has now associated with itself several persons with actual experience in public health administration as a whole field, in order to provide some approach to a bridge over the gap between these unofficial agencies and the official health machinery. But it is interesting to note that these unofficial bodies are now actively concerning themselves with the establishment of standards for a satisfactory health department for cities of a certain size, and with the

formation and promulgation (towards the ultimate object of enforcement) of a mathematical basis of assessment by which the activities of the public health department of any city may be arbitrarily adjudged. In other words, the private membership associations and private foundations feel themselves competent and entitled to compile and promulgate standards by which the work of city health departments shall be adjudged. Inasmuch as this will probably apply in practice only to those cities in receipt, officially or otherwise, of financial assistance from these agencies, there can probably be little objection to those agencies framing standards by which to judge the extent of response to their generosity. But the situation is, in essence, unhealthy. In an educated and self-governing community the measures provided for the people must be such measures as are prompted by the conscious will of the people—i.e., by the Government—or they cannot be permanently successful.

On the other hand, in New Zealand the overwhelming success of the movement for the care of infants has been entirely due to the work of a voluntary society. It was by aligning the women of New Zealand behind his crusade for the protection of infants, and by this means alone, that Sir Truby King was able to secure such striking results. But it has now been found advisable to make a governmental activity of this movement, at least in part, and Dr. King has been joined to the Health Department as an officer of that Department—the whole work being under Health Department jurisdiction.

Government Control or Supervision.

There appears to be a growing opinion amongst these private agencies in the United States that all the work they are doing should properly be part of the work of Government, whichever form or function of government was best adapted to control any particular part of the work, and that the function, if any, of private agencies was to assist governments, not to act as their substitutes. It is impossible to conceive any course of action, other than autocratic governmental prohibition, which would prevent the spontaneous formation of such associations or societies, or prevent some philanthropically-disposed wealthy person bequeathing his money for some purpose of the kind now under discussion.

The State of Alabama has in its legal code an unusual provision:—

"No board, body, or organisation shall engage in any public health work except under the supervision and control of the State Board of Health."

This method does not entirely prevent trouble. The simplest way to avoid complications arising from this source, a way which would at the same time be most calculated to bring lasting good to the community, would be for Governments, or, rather, the people whom Governments represent, themselves to perform those simple duties in the field of public health which apparently are being left more and more largely to private agencies. Private agencies cannot operate effectively in respect of environmental sanitation which is exclusively a matter for Government. Private agencies find their most profitable and most dramatic field for work in the various phases of individual hygiene, but individual hygiene in almost all its aspects depends for success upon efficient environmental sanitation. The mother, in her relation to public health—i.e., at the time of child-bearing—is influenced by her environment in respect of food, occupation, and infection. The infant at the time when it is the concern of the State—i.e., during the first year of life—is liable to environmental influence in respect of food and infections. The infantile diarrhœas are to a large extent referable to the same environmental factors of sanitation as are the typhoid and cholera group, and are controllable by the same measures as have been used successfully in those diseases. In tuberculosis it is now accepted that environment—i.e., housing, occupation, food (or economic status, which determines all three)—plays a part at least equal in importance to infections. Control of the environment cannot be secured by any haphazard efforts or transient stimulations of public interest by official or unofficial agencies, but must be solidly based upon a legal code deliberately framed by experienced sanitarians and backed by a solid public opinion demanding the enforcement of at least the major provisions.

Public Health Not Purchasable.

One of the most misleading public health epigrams is that officially used by the New York City Health Department—"Public health is purchasable"—as if public health were a tangible commodity. The implication is that with sufficient money the irreducible minimum of mortality- and morbidity-rates can be secured. All experience shows that this is not true. Public health is merely the expression of private individual health which in turn is regulated by the standard of education (upon these matters of health) attained by the individual and the degree to which the knowledge possessed is used. Money will not make a people wise. One can, without surrendering any convictions, welcome gladly the enormous assistance being rendered by these private agencies to the advancement of public health. The International Health Board is, beyond all question, the greatest single force in public health to-day. But, in the end, public health, to be successful, must be the practical expression of the conscious will of the people themselves—which is Government.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Recrudescence of Alcoholism.

DURING the last few years an increase in alcoholism has been noticed in France, which compares unfavourably with the marked diminution of the war period. A commission appointed by the Academy of Medicine has recently been inquiring into this. In his hospital experience during the course of six months, Dr. Achard has found obvious alcoholic stigmata in 44 men out of 418 entrants, and in 38 women out of 579 entrants (roughly 10·5 per cent. of men and 6·3 per cent. of women). This represents only the minimum, for many drinkers did not as yet show any stigmata. Apart from those diseases which had been aggravated by drinking, there were 21 cases—of cirrhosis, delirium tremens, polyneuritis, and gastritis—in which the illness could have been avoided by temperance. Cirrhosis was more frequent amongst women; in 100 alcoholics the proportion of cirrhotics was 18 per cent. for women and 9 per cent. for men. This increase in alcoholism is a reflection of the increase of alcohol consumption in France, which fell from 1,413,000 hectolitres in 1914 to 584,000 in 1918, but has risen again to 1,016,000 hectolitres in 1923 and 968,000 in 1924. The probable causes seem to be: The relative increase of wages amongst manual workers compared with other citizens; the eight-hour day with its increase in leisure; and the reappearance of absinthe in disguised forms. Complete prohibition hardly seems applicable to France, but it would be proper not to give official recognition to fermented drinks as "hygienic," and not to encourage the already excessive production of wine. The use of fresh grape juice, and the employment of alcohol industrially, ought to be developed. The oft-demanded suppression of the privileges of those who distil their own fruit seems an impossibility under the French political system. Some restriction of the number of licences might perhaps be considered, but the electoral power of the wine merchants gives them Parliamentary favour. Private campaigns against alcoholism have only a limited sphere of action. Propaganda should begin in the schools; it cannot be given to adults by their employers because of the distrust which would be excited. The workers' organisations would have more chance of success, and it is their leaders that have to be won over; but perhaps it is the doctor who

is most qualified for the task in his rôle of disinterested adviser. It has been suggested that a special commission should be formed under the Commissariat de Santé to undertake a campaign against alcoholism.

Encephalitis and Vaccination against Small-pox.

M. van Bonwdyk Bastiaanse, of The Hague, in collaboration with MM. Bijl and Levaditi, have given an account of their observations on the ætiology of encephalitis in children following vaccination against small-pox. They were concerned with cases which, 10 or 12 days after vaccination, showed signs of encephalitis, characterised by sleepiness, fever, signs of irritation of the pyramidal tract and sometimes paresis, without spinal lymphocytosis. These accidents were noticed during an epidemic of encephalitis. Experiment and pathological research have shown that this form of the disease is not due to the virus of Jenner's vaccine. The various stocks of vaccine used were from a supply obtained from the calf which showed no exceptional neurotropic affinities. There is every reason to suppose that in these cases there was a latent infection by the virus of encephalitis lethargica, and that vaccination merely hatched it out. This agrees with the experience of Levaditi and Nicolau, who have shown that a neurotropic virus can bring out a latent infection due to a different but equally neurotropic virus (e.g., hydrophobia and vaccination). The fact that in the cases under observation the encephalitis developed in a site already affected by the vaccine virus explains the special histo-pathological changes seen.

Insulin in Non-Diabetics.

The trophic action of intramuscular injections of insulin in diabetes is well known. At the time of surgical intervention this substance is capable of hindering the development of toxic accidents; it facilitates the cicatrisation of the operation wound, and diminishes the time required for healing. H. Chabanier has reported a similar trophic action of insulin in the case of atonic wounds in diabetics—e.g., in perforating plantar ulcers and varicose ulcers. This action may also be observed in non-diabetic subjects. In small doses, given by injection, insulin leads to rapid cicatrisation of varicose ulcers in subjects with normal blood-sugar content; but he has employed it by injection and by local application in the form of dressings with an ointment of insulin. In every case the remedy has been well tolerated and a notable improvement observed in the patient's general condition in addition to the local change (modification of the skin in the periphery of the ulcer, which regains its normal supply and rosy aspect). In some cases cicatrisation was rapid. Alone or in combination with general treatment such local applications of insulin are able to render great service to the surgeon.

French Views on Rickets.

In spite of the large amount of work carried out within recent years on the ætiology of rickets, some physicians in France still hold views which they refuse to modify in the light of recent knowledge. Putting aside the opinions of Prof. Marfan, who still maintains the paramount importance of congenital syphilis as a causal factor in the production of rickets, even moderate French opinion by no means accepts, for example, the vitamin theory, although cod-liver oil was first used in France for the cure of this disease. At a recent discussion before the Société Médicale des Hôpitaux de Paris Dr. G. Variot sounded a note of warning on the subject of "sun-deficiency" as an ætiological factor, pointing out that because ultra-violet light had such a striking effect in curing rickets, it by no means followed that deficiency of this light was an important cause of the disease. He then elaborated the theory of "dysalimentation," which stresses incorrect diet at the period of weaning. This remained, in his opinion, the most important factor. He particularly indicted the removal of all milk from the dietary at this period and the substitution of starchy foods made with water. Prof. Comby, who also took part in the discussion, agreed with this view, and, while not denying the importance of hygienic factors such as the sun, air, light, and exercise, stated that these factors did not play any vital part in the majority of cases. He pointed out that in this his opinion had not changed materially since he first affirmed his belief in the alimentary factor 30 years ago; and in a review of the recent literature on this subject published in 1923 he had still maintained that defective feeding, and especially over-feeding, played a most important part in the production of rickets. That both lack of sunlight and defective feeding were closely related causes of rickets was advanced by Dr. Apert, who holds that one of these factors is as necessary as the other; but in reply Dr. Variot disagreed with this. It is noticeable that in the report of this discussion no mention is made of any vitamin, and it is probable that the recent work of Mellanby on the apparent antagonism between excessive starchy foods and the antirachitic factor will be taken here as an additional proof (as, of course, it is) of the dangers of overfeeding with starch during the period of growth. This is an illustration of the way in which facts can be made to bear slightly different interpretations according to prejudice.

The Comparative Action of Atropine and the Total Alkaloids of Belladonna.

Differences in the physiological and therapeutical action of the total alkaloids of a plant and of the essential principle are already well known. P. Lemay and L. Jaloustre have tested the action of atropine and of the total alkaloids of belladonna in the rabbit, and have confirmed the facts already noted by Cushny and Rothlin. The total alkaloids appear to be twice as active as atropine in their action on the cardiac wave, and the authors conclude that there is reason to use them in treatment (especially in spasm and vagotony) in preference to the galenical preparations of the codex. The physician has in them a remedy always of the same composition and twice as active as atropine without being more toxic.

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

Proposed Alterations in the Medical Curriculum.

A SPECIAL committee appointed by the Ministry of Education, in coöperation with the medical faculty of Vienna and the university boards of the three Austrian universities, has worked out a series of suggestions on the future regulation of medical study in this country. The principal change advocated is the extension of the period of studies. Hitherto ten semesters (five years) have been required; but the medical student will now have to work for a year longer at the university and at the clinics before he can take his diploma of M.D. At the end of his fifth semester (half-year) he will take three minor examinations (biology, chemistry, and physiology) and a severe examination in anatomy; after which he will serve during the next two years as junior assistant in various clinics. Here he will obtain practical instruction at the bedside in the modern technique of investigation, under the guidance of regular assistants of the clinical professors. The final examinations will be held at the end of the eleventh and twelfth semesters, and for both these terms the student will be required to serve in clinics. The "hospital year" for the graduated doctor, which has been adopted in Germany and some other countries, has not found favour here. The committee thinks it advisable that the student should have a year of thorough instruction at the bedside before he is granted a diploma which, according to the law, entitles him to settle down and practise. It has been thought wiser not to alter the fundamental legal regulation. Specialisation by the graduated doctor will also be much more difficult than hitherto. He will only be allowed to style himself "specialist" after having spent at least four years in hospital as

interne and assistant after his graduation; and of this period he must have been working for at least three years in the special branch selected. He may then be recognised as "specialist" by the Union of Specialists, which alone is entitled to confer on him this title. It is even contemplated that those present-day specialists who have not obtained a university degree of docent or professor in their special branch should be compelled to pass a (nominal) examination. But this suggestion has met with so much opposition that it will most likely not be enforced.

Insulin Treatment in Cases of Extreme Leanness.

At a recent meeting of the Vienna Medical Society Prof. W. Falta showed several cases in which he had given regular insulin treatment with the intention of obtaining rapid gain in weight. From the very first administration of insulin the appetite was enormously increased, so that the patients were capable of ingesting huge quantities of food. The gain in weight amounted on an average to 1½ kilos per week; and in one case a distinct obesity ensued, so that the treatment had to be interrupted. The absence of œdema indicated that this gain was not a mere accumulation of water. It was, in fact, an apposition of real body substance, as was shown by the presence of layers of fat on the thigh, neck, and abdomen. Only in cases of diabetes was œdema produced by insulin. Prof. Falta pointed out that these observations substantiated his assertions that obesity of a pancreatic (insular) type was very frequent, and that it is probable that insulin—or rather, the organs producing insulin—plays an important part in the mechanism of the regulation of the desire for food. In the ensuing discussion Dr. H. Pollitzer, Dr. Bauer, and Dr. Nyiri reported that they too have observed rapid rise of appetite by insulin treatment. Especially the turgor of the tissues increases rapidly, as water retention without œdema is a practically normal condition which is aimed at in all "feeding up" cures. The insulin treatment must, of course, be conducted in a very careful way, especially in cachectic persons; such individuals are liable to an increased susceptibility to insulin, somewhat similar to that observed in severe cases of diabetes.

Increase of Saturnism in Austria.

Prof. Sternberg recently showed to the Medical Society of this city a woman of 36 years who had suffered for more than eight months from intense headaches, with nausea and frequent vomiting. Mental derangement of the type of a mild mania was also present at times. Slight paresis of the right abducens, a congested fundus in both eyes, and loss of irritability of the vestibular organs were thought to point to a cerebral tumour; but, besides that, a distinct discoloration of the lower lip on its dental aspect, consisting of fine point-like pigmentations typical of plumbism, was discovered. The few teeth present also showed a very distinct but narrow line of the same kind. The history of the patient explained the condition. She was occupied in copying illustrations and drawings for textile fabrics by means of an adhesive dye which contained colophonium, white lead, and soot. The constant use of this mixture had caused a chronic œdema of the brain which produced the symptoms. A course of iodides with intense sweating brought marked relief and the return of normal vision, and all the cerebral symptoms disappeared. In 1836 the name of encephalopathia saturnina was given to this rare variety of plumbism by Tanquerel des Planches. This case gave rise to an extensive investigation in all commercial and industrial enterprises using lead and its derivatives. Especially the use of certain white dyes is fraught with danger, as the workers generally are not aware of the presence of plumbum in them, and are therefore careless. In the discussion following the demonstration, Prof. H. Schlesinger pointed out that before the war saturnism had been quite rare in this country, but that during the last six years there had been a distinct rise in its frequency. Besides painters, file makers, and electrical workers, it affects those employed in potteries. These use coatings containing a fair amount of lead, because lead-containing varnishes give a better finish to the work. Factories seem to neglect the precautions stipulated by the Industrial Labourers' Protection Law, and it is intended to include industrial lead poisoning in the suggested Labourers' Compensation Act as an accident, so that the factories will in their own interest be forced to pay more attention to this point.

Public Health Services.

SCHOOL MEDICAL SERVICE.

Name of district.	No. on roll.	Average elementary school attendance.	No. of routine children examined.	No. of special examinations and re-inspections.	Percentage of children found on routine examination requiring treatment.*
Bristol.. ..	54,704	47,405	14,996	38,885	16·2
Warrington .	13,117	—†	3,983	4,678	17·8
Stoke-on-Trent..	50,951	—†	14,120	19,887	23·0

* Excluding dental defects and uncleanliness.
—† Not given.

Bristol.

Dr. R. A. Askins, in his dual capacity of school medical officer and deputy medical officer of health, is directly able to maintain the closest coöperation between the medical services of the education and health committees—a matter of great importance in a large community with many health activities. It prevents overlapping and also ensures the continuity of supervision from birth to school-leaving age. The importance of keeping in touch with the child welfare work is exemplified in the special report of the chief assistant school medical officer, Dr. R. R. Garden, on the early rectification of squint by glasses and orthoptic treatment. Seventy-nine children referred by the welfare staff were examined at the clinic; 46 of these were found to be convergent concomitant squints, of whom 12 responded at once by the use of suitable glasses and the others are now under treatment and are mostly improving. As with visual defects so with most incipient abnormalities, early recognition and treatment spells the end of much after-crippling.

Dr. Garden also reports on the outbreak of encephalitis lethargica in 1924. There were 50 cases, of whom eight died. Of the remainder, including a few cases before 1924, 21 appear to have recovered with so far no sequelæ, 19 have more or less severe after-effects—e.g., drowsiness, irritability, lack of concentration, and some loss of control. It is this class which forms a serious educational problem. Institutional care is neither desired nor expedient, yet to return them to an ordinary school, though no doubt advantageous to the individual sufferer, is detrimental to their class mates on account of erratic conduct and partial immunity from punishment. In eight cases the sequelæ—e.g., inversion of the diurnal rhythm, paralysis, intellectual and moral depravity—were so serious that institutional care is urgently required. These figures are comparable with those recently reported among 193 cases in London school-children by Dr. F. C. Shrubsall, and indicate the severity of this new scourge. Not least amongst the disquieting features is the fact that early cases are often missed or lightly treated on account of the mildness of the acute stage.

Dr Askins is happy in reporting on the opening of another new and up-to-date clinic, making the fourth now in operation; in addition, there is an orthopædic clinic where appropriate cases from both the child welfare and school departments are treated on modern lines under Mr. Hubert Chitty. Heart cases

are all seen by Dr. Carey Coombs and Dr. C. E. K. Herapath, who report in detail to the school medical officer; an excellent arrangement when we remember the highly specialised work of recognising early signs of cardiac involvement and the grave consequences following on untreated early carditis. Special schools exist for mentally and physically defective children. Mr. J. P. Harty, the aural surgeon, states that the numbers requiring admission to the special school for the partially deaf show a definite and steady decrease since the aural clinics were opened. There is an open-air school with accommodation for 140 and three open-air classes are daily held and accommodate 84 children. Since the results of this rational treatment are so good, it is hoped that further facilities will be provided. Deaf-mutes to the number of 55 are treated in a residential school, and special classes are held for myopes and the partially deaf with accommodation for 70 and 40 respectively, and 17 blind children are maintained by the committee at outside institutions.

Warrington.

Dr. G. W. N. Joseph states that the percentage of defects is lower than in any previous year, and a table is given illustrating the influence of infant welfare centres. Among the entrants who had attended these centres the percentage of defects requiring either treatment or observation was 15·3, compared with 27·2 among the other entrants. In other tables he shows how greatly loss of attendance from contagious affections, particularly "diet" diseases, has been reduced, the days lost in 1922 being 18,227, whereas in 1918 there were 104,453, nearly six times as many. He points out that apart from the other great benefits there is considerable financial gain to the authority by increase of grant. Much credit is due to the school nurses for their preventive and curative work. A special table shows that in ringworm there has been a reduction both in numbers and in time required for treatment, the latter reduction being related to the use of X rays in treatment.

The figures for visual defects during the last four years are set out in detailed comparative tables; they are, on the whole, fairly constant and do not afford evidence of the increase reported in some other areas. As to their treatment we learn from the report that many children were dealt with by "other methods"—i.e., opticians. Many opticians to-day are well trained in general sight-testing and the fitting of glasses, but the strongly acting ciliary muscle of the child makes refraction without a mydriatic liable to error, and examples of the practical evils arising are well known to anyone with acquaintance of ophthalmic practice. A progressive diminution is described in dental defects—i.e., in the percentage of children having four or more carious teeth (a standard which we hope will soon be felt to be too low). On this basis only 0·32 per cent. are called defective, whereas the standard of the dentist gives 75·7 per cent. One expects some difference between the ideal and the practical working scales, but surely this discrepancy is too marked. The proportion of dental cases treated this year (22 per cent.) is low, and the fee scale, which was largely responsible for the falling off, has been relaxed. The dentist thinks that he should inspect less and devote more time to treatment. It is to be hoped that the projected orthopædic centre and the special mentally defective school will soon be in working order. For low grade defectives an occupation centre has been established, but this is badly handicapped by lack of a guide, and such centres are never proper substitutes for special mentally defective schools.

The need for remedy of some gross sanitary defects in the schools is emphasised in this report, the tone of which is otherwise optimistic. In certain other respects the arrangements are as yet scarcely worthy of a town of the importance of Warrington.

Stoke-on-Trent.

Dr. R. Hughes has compiled a voluminous report full of apt quotations and original mathematical tables. Although his interests are wide the consideration of the many topics does not lack thoroughness. He has been unfortunate in the constant changes of staff. No routine inspection has taken place in secondary schools. Dr. Hughes makes some pertinent remarks on the question of overcrowding. He quotes the recommendations of the Council of Ophthalmologists, and agrees with Dr. J. Kerr that progressive myopia is a distinct clinical entity and of great importance. Ionisation of ears is to be started again. Dr. E. A. C. Swainson, assistant school medical officer, remarks on the haphazard treatment which "running ears" usually get.

Stoke-on-Trent is unfortunate in its provision of treatment for enlarged tonsils and adenoids. Out of 1291 cases only 158 received any form of treatment. It has been resolved that the necessary steps be taken to provide for the erection of a school for mentally defective children of the county borough. Dr. Hughes's speculations on the comparative failure of some mentally defective schools are interesting, but his comments on these day schools seem unduly pessimistic. Two special contributions are added—one on the distribution of educational abilities among mentally defective children has some original features; the other on the relationship of Binet test ages to abilities in individual school subjects is of educational value.

INFECTIOUS DISEASE IN ENGLAND AND WALES DURING THE WEEK ENDED JULY 18TH, 1925.

Notifications.—The following cases of infectious disease were notified during the week: Small-pox, 90; scarlet fever, 1683; diphtheria, 933; enteric fever, 65; pneumonia, 707; puerperal fever, 38; cerebro-spinal fever, 5; acute poliomyelitis, 4; encephalitis lethargica, 52; dysentery, 6; ophthalmia neonatorum, 131. There were no cases of cholera, plague, or typhus notified during the week.

Deaths.—In the aggregate of great towns, including London, there were 5 deaths from enteric fever, 18 from measles, 8 from scarlet fever, 78 from whooping-cough, 18 from influenza, and 20 from diphtheria. There were 50 deaths of children under 2 years from diarrhœa and enteritis, as compared with 44 and 29 in the preceding weeks. In London itself there were 7 deaths from influenza and 6 from diphtheria.

FELLOWSHIP OF MEDICINE AND POST-GRADUATE ASSOCIATION.—The Fellowship announces that there will be a special series of lectures on tuberculosis from October to December. Beginning on August 24th to Sept. 5th, there will be an intensive course in general medicine, surgery, and the special departments at the Queen Mary's Hospital, Stratford. Sessions will be held each day from 10.30 A.M. to 5.30 P.M., including demonstration of clinical methods, groups of illustrative cases, &c. Special opportunities will be afforded to those desirous of obtaining practical study in gynæcology and obstetrics. The fee for the course is £3 3*s*., or £2 2*s*. for either week. Courses in progress are: A general vacation course at the Prince of Wales's General Hospital, Tottenham, the fee being £3 3*s*. or £2 2*s*. either week, and special courses in nervous diseases and urology at the West End and All Saints' Hospitals respectively. An extensive programme of special courses has been arranged for the month of September. The Seamen's Hospital will give an operative surgery course from Sept. 7th onwards and classes will be held four times weekly. The Brompton Hospital begins a two weeks' course from Sept. 21st to Oct. 3rd, dealing with pulmonary diseases, by members of the staff. There will be an afternoon's course at the Blackfriars Skin Hospital and one at the Infants Hospital, both taking place from Sept. 7th to 19th. At the Royal Westminster Hospital a course in eye diseases will be given from Sept. 7th to 26th embodying instruction in the out-patient department and special lectures and demonstrations on the various branches of ophthalmology. An intensive course at the Westminster Hospital in general medicine, surgery, and the specialties is announced for Sept. 21st to Oct. 3rd. A weekly lecture-demonstration in electrotherapy will be undertaken by Dr. C. B. Heald at the Royal Free Hospital from Sept. 23rd to Oct. 14th. Copies of the syllabus of each of the foregoing courses may be obtained on application to the Secretary at 1, Wimpole-street, W. 1.

BRITISH MEDICAL ASSOCIATION.

ANNUAL MEETING AT BATH.

(*Continued from p. 200.*)

REPRESENTATIVE MEETING.

MONDAY AND TUESDAY, JULY 20TH AND 21ST.

Memorandum on Coroners' Law.

THE principal subject occupying the attention of the Representative Meeting on Monday was the Memorandum of the Council dealing with proposed Amendments in the Coroners' Law. The chief alterations it is hoped to bring about are the institution of two forms of certificate of death and still-birth: (1) Notification of death by natural causes or otherwise, with duration and general nature of the disease, signed by a registered medical practitioner who has viewed the body; if possible by the one who had attended the deceased during life or had been called in at or about the time of death; and (2) a further report on the cause of death containing any scientific data considered necessary or desirable, such report to be private and only open to inspection by a coroner, medical officer of health, or superior police officer. The registrar, in the absence of the first certificate or in cases where it does not strictly follow the statutory form, would notify the coroner.

The discussion centred mainly around the question of the second certificate, whether there should be any reservation on the form issued to the relatives, and if so, what should be done with additional information. Dr. E. W. G. Masterman (Camberwell) argued that double certification involved an extra burden on the practitioner, annoyance to insurance societies, who, as Dr. J. Stevens (Edinburgh) pointed out, would scarcely be willing to meet claims when they knew that a second and confidential certificate had been posted to the registrar, and chagrin of the relatives at not being able to quote the cause of death as certified. Moreover, the scientific value of the second certificate would be small except in cases where a post-mortem examination had been performed or where there was some factor, such as alcohol or venereal disease, which the doctor definitely desired to keep from the knowledge of the relatives. An amendment to delete the line "State disease" on the first certificate was lost on the grounds that this was a concession to the desire of the relatives to have some general disease term given them as cause of death. The supplementary certificate clause was eventually amended on the motion of Dr. E. R. Fothergill (Brighton) and Dr. P. Macdonald (York) to read:

> In addition to the certificate of the fact of death there shall be sent direct to the Registrar-General a further report including further facts as to the cause of death and any scientific data which the practitioner who certifies the death considers necessary or desirable.

Various amendments to modify the suggested fees were thrown out and the remuneration for certification, including viewing the body, was left at the Council's figure of 5*s.* with additional mileage of 2*s.*

After a little discussion it was agreed that:

> The Representative Body is of opinion that additional death certificates should not be given except at the request of the patient's representatives or after their consent has been obtained.

Representation on the G.M.C.

The Council recommended:

> That having fully considered the position with regard to the present constitution and the duties and powers of the General Medical Council, the Representative Body does not consider that the Association should take steps (as suggested in Minute 185 of the A.R.M. 1924) with the view of obtaining a larger number of Direct Representatives of registered medical practitioners on the General Medical Council.

This was accepted by 84 votes to 53.

Payment for Health Certificates for Elementary School-Children.

The Representative Body in 1920 agreed that in the event of a school authority requiring a certificate of inability to attend school from a private practitioner the fee for such certificate should be paid by the authority. The Council recommended rescission of this minute as it appeared not to be consonant with the law. The meeting, however, emphasised again their opinion that this state of things ought to be brought about. Mr. Wallace Henry said that in Leicester no medical practitioner gave a certificate to a school-child under any circumstances. The school attendance officer notified the school medical officer if the absent child were seriously ill; if not, he told the parents to take their child up to the doctor for a decision as to whether school attendance was advisable or not. This plan had worked perfectly well. It was the duty of the education authorities to ascertain why a child was absent. The legal position had been known to the Representative Body all along, and in certain areas the education authority did pay, and it ought to in all.

Fees for Examination of Emigrants.

On behalf of the Council Mr. E. B. Turner proposed:

> That the fees chargeable by the medical referees appointed by the Dominions of the Empire to examine proposed emigrants should be as follows: 10*s.* 6*d.* for an applicant of 16 years of age or over; 2*s.* 6*d.* for each applicant under 16 years, provided their parents or guardians are sailing with them. Not more than two applicants under 16 years of age in one family to be charged for. Applicants under 16 years proceeding alone will be charged 10*s.* 6*d.*

This resolution, which was carried, amends the fees adopted in 1923.

Proposed Factory Medical Service.

The proposals of the Council for a Factory Medical Service was discussed, and the following items passed:

1. That there should be a distinct department of occupational hygiene attached to the Ministry of Health, which should include the present Factory Medical Service transferred from the Home Office.
2. That if any changes are made the interests of existing members of the Factory Medical Service should be carefully conserved or compensated.
3. That as a general rule any practitioner hereafter appointed to perform the duties at present performed by the factory surgeons, or duties analogous thereto, should at the time of appointment be in general practice or have had recent experience of general practice.
6. That any Factories Bill should provide for due retention of the powers already possessed by local sanitary authorities in respect of factories and workshops.
7. That so far as practicable all supervision of sanitation in factories, workshops, and workplaces, as defined in the Factories Act of 1901, should not only be retained by the local sanitary authority, but should be extended to all factories.
8. That any Factories Bill introduced should provide that the Regulations and Orders of the Secretary of State having reference to sanitation in factories, shall apply, local by-laws and regulations notwithstanding, and should be enforceable by the local authorities and not by the Factory Department, except in cases of default.

Paragraphs 4 and 5, dealing with transference of the work to local authorities where possible and the desirability of setting up a complete service of occupational hygiene, were referred back to the Council for further consideration.

Drug Addiction.

Dr. J. W. Bone, the representative of the British Medical Association on the Home Office Drug Addiction Committee, reported the proceedings of a B.M.A. Committee on the subject. The Association sent four witnesses to give evidence before the Home Office Committee—namely, Mr. E. B. Turner, Dr. E. K. Le Fleming, Dr. C. P. Symonds, and Dr. Cox, and Dr. Bone placed before the meeting the provisional findings of the Home Office Committee in order to obtain guidance. An interesting discussion ensued, but as the documents have not yet been placed before

the Home Secretary the meeting decided that it would be improper to report the discussion, though useful decisions on the points raised by Dr. Bone were arrived at.

Unqualified Practice.

A motion was brought forward urging amendment of the Medical Acts so that unqualified practice should be illegal, but the meeting decided to pass to the next business.

Nursing Homes Registration Bill.

Dr. E. R. Fothergill, in proposing active opposition to the Nursing Homes Bill, 1925, urged that the Association should refuse support to any Bill that included the following principles: (1) Non-recognition of the local medical profession by the supervising authority; (2) disclosure of private case-records to supervising authority; and (3) inclusion within the definition of a nursing home of premises which are under the control of a registered medical practitioner. To this the meeting agreed, Mr. E. B. Turner pointing out that the original Bill had been withdrawn, as admittedly worded badly, and without doubt the preparation of a new Bill would be preceded by a Select Committee before which the Association would be invited to give evidence.

Remuneration of Assistants.

It was resolved:—

(*a*) That on general principles the employment in suitable cases of assistants by practitioners is in the interests both of the general public and of the profession; (*b*) that it is not desirable for a principal to employ an assistant where he is unable to exercise adequate personal supervision over the latter—e.g., in some types of branch practice; in such circumstances a partnership is to be preferred; (*c*) that the offer or a promise of a future partnership should not be made a reason for paying a lower salary to an assistant; (*d*) that the minimum commencing salary for a newly qualified inexperienced practitioner, acting as a whole-time indoor assistant to a practitioner, should be £240 per annum, with the addition of board and lodging; and in the case of such a practitioner employed on an outdoor basis, the board and lodging value should be estimated from £120 to £160 per annum, according to the circumstances of the individual case; that the only exceptions or possible exceptions to the foregoing should be in the case where, owing to arrangements made for study leave, or to physical disability or other reasons, the assistant is not able to give full time to the work; (*e*) that a whole-time assistant should be entitled to not less than two weeks' holiday a year on full pay.

No steps are to be taken at present to make these resolutions the formal policy of the Association.

Fees at Municipal Maternity Hospitals.

It was proposed by the Chairman of the Medico-Political Committee, and resolved to insert the following paragraphs in the report on the Utilisation of Municipal Hospitals for Civil Needs:—

That where the local authority makes provision for the institutional treatment of maternity cases this should be mainly or primarily for serious cases of antenatal complications, for cases requiring major obstetric operations, for cases where isolation and treatment of septic infection is specially indicated, and other cases where the home conditions are unsuitable or dangerous for confinements.

That where a general practitioner is called upon to render assistance at a confinement in a municipal maternity hospital the fees payable to such practitioner should be in accordance with the scale of fees approved by the Ministry of Health for the payment by local supervising authorities to medical practitioners called in on the advice of midwives, under Section 14 of the Midwives Act, 1918.

That where a consultant is called in by the practitioner in charge of the case the fee for the consultation should be three guineas; that the fee for a major operation should be not less than ten guineas.

Salaries for Public Health Posts.

A good deal of discussion arose on the proposed scale of salaries for public health posts; but the various amendments were lost. The chief difficulty as put forward by Dr. A. T. Jones (North Glamorgan and Brecknock) and Dr. Gordon Bell (Sunderland) was the occupation of junior posts by recently qualified men and women who had had great difficulty in obtaining a situation, and who were submitted to grave hardship and forced to refuse £500 a year offered by county and borough councils. But, as the Chairman of Council pointed out, the scale allowed inexperienced juniors to hold posts at commencing salaries of £500, only demanding that the experience gained by them after their probationary year should be recognised by increased emolument. On the whole, the Association did not wish to encourage the appointment of recently qualified practitioners to public health posts; the scale was intended for those who had had post-graduate experience, often a special diploma, and to whom the local practitioners could look as consulting authorities. Dr. Eustace Hill remarked that many of these posts were blind alleys, as the number of assistants greatly exceeded that of senior medical officers; this must be taken into consideration in assessing the remuneration, as also must the consultant position of these specialists, and the fact that any standard accepted would undoubtedly extend to other branches of medical work. The scale as accepted by the Representative Body is that which appeared on p. 1157 of THE LANCET of May 30th last.

Medical Benevolence.

Some discussion arose on the recommendation of Council to set up a British Medical Association Charities Committee to be constituted and directed according to the following provisions:—

1. The Committee shall consist of the officers of the Association ex-officio, three members appointed by the Representative Body and three members appointed by the Council, together with the Editor, the Medical Secretary, and the Financial Secretary.

2. It shall be the duty of the Committee through the machinery of the Association to direct the attention of members to the financial and educational positions which arise as a result of misfortune falling on members of the profession, and to appeal for contributions to meet these positions.

3. All sums obtained in response to such appeals shall be paid to a charities trust fund, the trustees being the members of Council for the time being in office, and shall be distributed to such medical benevolent organisations, and in such amounts as the Committee (subject to the approval of the trustees) shall deem advisable.

4. Contributions paid to the Fund may at the will of the donor either be left to the discretion of the Committee or earmarked for a particular purpose.

Complete unanimity was shown as to the importance and urgency of increasing the support of medical charities, but several members desired that the Association should conduct its own charitable work as the existing bodies were not satisfactorily run. The recommendation of Council was adopted on the appeal of Dr. Bolam, who said that he had had occasion to investigate the working of the Royal Medical Benevolent Fund, and he had found single-minded and devoted officers giving of their energy and often supplementing out of their own pockets the very small sums they were able to distribute; he had been particularly impressed by the work of the Ladies' Guild. The blame was on the profession; these organisations ought to be provided with the sinews of war; he strongly deprecated any assumption of management by the Association, and urged the meeting to help them to get on with the work and to do it cheerfully and freely, for the good of the profession and with no restrictions.

In reply to a question from Dr. Wallace Henry as to the individual voting power of subscribers under the new arrangement, the Chairman said that subscriptions might be earmarked for a certain purpose in which case the individual voting powers would be retained.

Lavatories in Railway Carriages.

It was proposed by Dr. W. Johnson Smyth (Bournemouth), seconded by Mr. Russell Coombe (East Cornwall), and carried without discussion, that the question of the defective ventilation in the lavatories of railway carriages be referred to the Council with power to take any necessary action in the matter.

Whole-time M.O.H.'s.

In proposing a motion—

That the Representative Body is of opinion that it is inadvisable and improper that whole-time medical officers engaged in public health work should be required to undertake duties other than those for which they were appointed,

Dr. G. G. S. Johnston referred to a bacteriologist required to do post-mortem examinations and a tuberculosis officer required to examine mentally defective children.

The motion was referred to the Council for consideration.

Sale of Vaccine Lymph.

The following motion was brought forward by the Hendon Division :—

That inasmuch as vaccination against small-pox by means of calf vaccine lymph is the sole obligatory medical operation known to English statute law—abstention being permitted only after statutory exemption has been obtained—calf vaccine lymph be now recognised in the British Pharmacopœia as a therapeutic substance: that standards of purity, potency, and source of seed used in its preparation be prescribed; that the provisions of the Sale of Foods and Drugs Act be made to apply, and that early Parliamentary action be urged to enable the Ministry of Health to lay down and enforce regulations governing the conditions of the preparation and sale of calf vaccine lymph.

This motion also was referred to the Council.

Preservatives in Food.

Dr. Ridley Bailey announced that a Home Office Departmental Committee on Food Preservatives had been assisted by Dr. C. Porter, of Marylebone, and Profs. Dixon and Clark on behalf of the Association. Certain vested interests had put pressure on the Government against the adoption of some recommendations of the Departmental Committee. It was therefore desirable to strengthen the hands of the Government by a strong expression of opinion from the Representative Body. The following recommendations were agreed to :—

(*a*) That the Representative Body is satisfied from the experiments made, from the recorded cases, and also from the fact that other countries have discontinued their use, that it is essential in the interests of public health that boric acid and boron compounds should not be used as food preservatives.

(*b*) That, whilst recognising that there are difficulties inherent in this country, due to the lack of cold storage facilities and efficient means of transport, which do not exist to the same extent in America and other foreign countries, the Representative Body is of opinion that as a matter of principle it would have been better if the example of other countries in prohibiting entirely the use of preservatives and metallic and other toxic colouring matters in foods could have been followed in the Draft Regulations *re* food preservatives, &c., issued by the Ministry of Health.

(*c*) That the members of the Representative Body draw particular attention to the evils which have arisen in their own experience from the importation of liquid eggs preserved with boric acid, and the Representative Body considers that it is essential from the public health point of view that liquid eggs preserved with boric acid or other preservative should be prohibited at once.

(*d*) That, subject to the foregoing recommendations, the Representative Body places on record its approval of the Draft Regulations (issued by the Ministry of Health on Feb. 17th, 1925) with regard to preservatives, &c., in food.

Retired Pay of Majors, R.A.M.C.

Sir Richard Luce, Chairman of the Naval and Military Committee, in proposing the adoption of the report of Council under "Naval and Military," drew attention to certain injustices which are present matters of negotiation. Of these the chief concerned the retired pay of majors of the R.A.M.C. This was £1 a day pre-war after 20 years' service, and in 1920 was raised to £396 per annum, but even this was subject to reduction. The War Office was in sympathy with the wishes of the B.M.A. in this matter, but the Treasury had not yet sanctioned the increase which would make their pension proportionate to that of the rest of the Service. Another difficulty had been the proposal to raise the age-limit in the Territorial Army, which led to a block in the promotion of majors. In the Navy, the negotiation about the gratuity to senior surgeon-commanders compulsorily retired at the end of the war had resulted in the acceptance of £300 by the officers concerned. The Council of the B.M.A. had suggested that a reconsideration of the pay of junior grades might help to overcome the reluctance of young graduates to enter the R.A.M.C., and the Army had replied that it hoped to lay before the B.M.A. at an early date proposals for the improvement of the conditions of service. After several members had condemned the attitude of the Government in this matter, it was resolved—

That inasmuch as the provision for a 20 per cent. reduction in retired pay of majors after 20 years' service under the 1919 Warrant can have the effect of reducing the pensions of many of these officers below the sum of £1 per diem which was provided by the Warrant under which they joined the Service, the Representative Body is of opinion that a serious breach of faith has been committed by the Government, and that, therefore, the Association is unable to recommend recently-qualified doctors to enter the R.A.M.C., and declines to publish the terms and conditions of service in the R.A.M.C. until the Council is assured that this and other matters under negotiation have been settled to its satisfaction.

Hospital Policy.

Considerable discussion was raised by the proposal of the Council to rescind paragraph 10 of the hospital policy, viz. :—

Gratuitous contributions to hospitals by employers of labour or by employees should not be treated as the payment of premiums for insurance against the cost of maintenance and medical treatment for sickness or accident, nor as entitling the contributors to claim hospital treatment, either for themselves or for persons nominated by them, but as charitable contributions to be expended at the discretion of those to whom the management of the hospital is entrusted.

Several members, including Dr. Peter Macdonald (York), Dr. F. Radcliffe (Oldham), Dr. R. D. Mothersole (Bolton), and Dr. J. M. Mitchell (West Bromwich) spoke to the motion, and the provincial members held that the hospital policy as proposed by Mr. H. S. Souttar, Chairman of the Hospital Committee, was not adapted to the conditions of midland and northern hospitals. Nevertheless, the motion of Council was passed by the requisite two-thirds majority, as was also the following new paragraph :—

9. Contributions to hospitals by employers of labour or massed or periodical contributions by employees should be considered as contributions for services rendered or to be rendered.

Dr. A. P. Thomson (Birmingham) proposed :—

That taking into consideration the importance of medical education and the fact that the large teaching hospitals are specially organised and staffed for such work, this meeting is of the opinion that in the scheme of hospital policy of the British Medical Association these hospitals should be put in a class by themselves.

This was referred to the Council for consideration, and it was further agreed :—

That in all cases of accident where medical attendance is given at a voluntary hospital, and such medical attendance is covered either directly or indirectly by insurance, the hospital authorities should recover from the insurance company the full cost of maintenance and treatment of such patient; that where patients who would ordinarily be considered as private patients are admitted to hospital solely on account of accident or emergency they should be considered as "private patients"; and that case-sheets and records of patients treated in hospitals should remain in the custody of the hospital; that they must be regarded as confidential documents and access to them allowed solely to the members of the visiting staff of the hospital.

During the course of the meeting Dr. Brackenbury was elected unopposed to the chair of the Representative Body, and Dr. C. O. Hawthorne was elected deputy chairman.

ANNUAL GENERAL MEETING.

Tuesday, July 21st.

The Annual General Meeting was held in the Concert Hall of the Pump Room on Tuesday, July 21st, when the outgoing President, Mr. J. Basil Hall, inducted Mr. W. G. Mumford as acting President during the illness of the President, Dr. F. G. Thomson.

The report of the Representative Body that Mr. R. G. Hogarth had been elected President for 1926–7 was received, and Mr. Hogarth extended to the Association a warm welcome to Nottingham next year.

Dr. R. A. Bolam, in proposing a vote of thanks to the past President, pointed out that he was the first President of the Association to visit America as an official delegate. Mr. Basil Hall expressed his enjoyment of his visits to the United States and Canada and the pleasure it had given him to occupy the presidential chair in such an active and interesting year. The meeting then adjourned until 7.45 P.M., when Mr. W. G. Mumford took the chair in the Palace Theatre. He was supported on the platform by the Marquis of Bath, Lord High Sheriff of the County of Somerset; Alderman Cedric Chivers, Mayor of Bath; Madame Sarah Grand, Mayoress of Bath; the Venerable Archdeacon of Bath; Mrs. Thomson, Mrs. Mumford, the past President, the President-elect, many members of Council, and the chief officials of the Association. Dr. R. G. Gordon, honorary local general secretary, introduced the two new Canadian Vice-Presidents and several distinguished foreign guests and overseas delegates. The Middlemore prize, consisting of an illuminated certificate and a cheque for £50, was then presented to Mr. Basil Graves in recognition of the contribution he has made to the microscopy of the living eye, especially in relation to the use of the slit-lamp. The gold medal of the Association, for distinguished services, was presented, amidst loud applause, to Dr. R. A. Bolam, chairman of the Council since 1920. Mr. Basil Hall, in introducing him, said that the engrossed testimonial set out many of his qualities and invaluable services, for which all were deeply grateful. His family motto should be "Service, not Self."

The Presidential Address, which appeared in last week's issue of THE LANCET, was then read by the President's son, Mr. Malcolm Thomson, and illustrated by lantern slides. A vote of thanks to the President was moved by Dr. Brackenbury and seconded by the Archdeacon of Bath, both of whom expressed the general admiration of the ability and grace with which it had been delivered. After a vote of thanks to Mr. Mumford, the company were received by Mrs. Thomson and Mr. Malcolm Thomson in the historic Assembly Rooms, where they enjoyed a pleasant social evening.

ANNUAL DINNER.

The annual dinner was held in the Assembly Rooms on July 23rd. Lord Dawson, in proposing the toast "Our Hosts," spoke of the beauty and hospitality of the city of Bath, and referred with particular appreciation to the part played by the Mayor in providing such lavish entertainment. Alderman Cedric Chivers, 695th mayor of the city, agreed with all Lord Dawson had said about Bath and its citizens, adding that the only exaggeration was contained in the reference to himself. The Marquis of Bath proposed "The B.M.A.," remarking on the pleasure it gave him, a layman, to wish the doctors the best of health. Dr. Bolam, replying, spoke of the attitude taken by the B.M.A. with regard to such questions as unqualified practice; he said that the Association must always stand for the interests of the community and must not interfere with the undoubted right of the head of every household to try his hand at healing his own relatives. Sir StClair Thomson proposing "Our Guests" gave a message of welcome from his kinsman the President. This toast was replied to by Dr. A. J. Orenstein (Johannesburg) and by Dr. W. D. Haggard (president of the American Medical Society). The presentation of the golfing cups by Mrs. Thomson followed. The Ulster cup was won by Dr. G. Brand of Glasgow, and the Childe cup by Dr. W. V. Wood of Yatton. "The President" was proposed by Dr. Brackenbury, who wished Dr. Thomson an early restoration to health, and thanked the acting President, Mr. Mumford, for the way in which he had risen to the occasion in particularly difficult circumstances. Mr. Mumford responded.

EXCURSIONS AND SOCIAL AMENITIES.

The Representative Body were taken by motor charabancs to Stonehenge on Sunday, July 19th, where they were met by Dr. J. P. Williams-Freeman, of Andover, who gave a most interesting and instructive lecture about the monument. An exceptionally large number of excursions and conducted tours were arranged during the week, and visitors were given every opportunity to see the baths and other interesting features of the town and its very beautiful environs.

SECTION OF PATHOLOGY AND BACTERIOLOGY.

WEDNESDAY, JULY 22ND.

Filter-Passing Viruses.

It had been arranged that the discussion on filter-passing viruses at this section should be opened by Dr. W. E. Gye, and after some preliminary words of welcome from Prof. J. C. G. Ledingham, President of the section, Dr. Gye was called upon. He began by explaining that it had been his original intention to speak on the general question of filter-passing viruses, and that he had actually composed a paper on this subject, but that he had since been requested to speak on his special research into filter-passing organisms found in cancer because of the widespread interest aroused by his article in THE LANCET of July 18th. He left it to the meeting to decide on which subject he should speak. Cancer was demanded with a unanimous voice, and Dr. Gye put aside his paper on filter-passing viruses and spoke for 20 minutes on his recent researches.

Up till recently, he said, we have been satisfied with the general conception that in order that disease may occur it is sufficient to bring together host and parasite. Though this holds good for many contagious diseases, it breaks down when applied to many bacterial diseases, particularly those due to anaerobic bacteria. Thus the tetanus bacillus, washed free from toxin, becomes harmless to laboratory animals. A mouse is not made ill by tetanus bacilli alone, but is killed by those germs if at the time of inoculation some tetanus toxin be also present. Although less clearly established, there is much to suggest that a similar third factor exists for diseases other than anaerobic infections. For example, 10 per cent. of the inhabitants of this country carry the cysts of amœbic dysentery; yet no epidemic occurs. We do not know the conditions which determine the onset of amœbic dysentery. Clearly the conjunction of host and parasite is not sufficient to cause it. An equally suggestive field for speculation is provided by cerebro-spinal fever. During war-time outbreaks of this disease it was sometimes found that 50 per cent. of contacts harboured the specific germ yet remained well.

Dr. Gye then turned to the question of the specificity of malignant tumours. It is known that all species of animal are liable to cancers, yet hitherto cancers have only been successfully passed from one animal to another of the same species, and only by the medium of living cancer cells. Thus a tumour arising in a mouse may be transmitted by living cells to another mouse, but not to a rat. This strict specificity has always appealed to the pathologist as an almost incontrovertible argument against the hypothesis of a

living agent as the cause of cancer; yet there remained one experience, an apparent exception, which forbade the dismissal of the germ theory of cancer. In 1911 Peyton Rous discovered that the filtrate from a chicken sarcoma tumour would produce sarcoma in fowls of the same breed. This was the first definite evidence of malignant tumours being transferred by other means than the injection of malignant tumour cells, but two other tumours were subsequently described which could be handled in a similar way. These three tumours differed radically in their characters. Thus the first was an embryonic type of sarcoma, the second an osteo-chondro-sarcoma (changed, by passage, from a benign to a malignant growth), and the third was a spindle-celled sarcoma with peculiar rifts running through it. All these could be diluted with saline and filtered, yielding an infective filtrate—but this was infective only for birds of the same species. The active filtrate always produced a tumour of the same character as that from which the filtrate was derived, and this specificity forced the conclusion that each type of tumour sprang from a separate type or species of virus. In defending other manifestations of cancer from the germ theory, orthodox pathologists argued that this strict specificity necessitated the postulation of a separate virus for every type of animal or plant tumour, an argument which seemed to reduce the germ theory to an absurdity.

Turning now to his own work, Dr. Gye gave a brief account of his recent researches. He described the method he had discovered for separating the filtrate of a chicken sarcoma into two fractions, each inactive without the other, but causing a malignant growth when both were injected. Thus by spinning the filtrate at about 9000 revolutions per minute, and washing the deposit obtained, he supplied himself with two fractions, a washed deposit and supernatant fluid. Neither of these would cause sarcoma by itself, but they were infallibly active when combined. This experiment, he declared, he had repeated many times, and he has come to look upon it as a key to the understanding of tumours. The next stage of his research was the production of tumours in mammals with cell-free filtrates. Previously this had not been accomplished for rat and mouse sarcomas; but Dr. Gye found that a tube of culture-media to which a piece of one of these tumours was added, possessed, after filtration, the capacity for inducing malignant growth. This proved that mammalian tumours do not differ essentially from the tumours of birds described by Rous. He was able to show finally that the same principles hold for mammalian tumours as for sarcomas of birds, and that two separate elements are necessary for the successful transmission of the tumour—(1) the living virus, and (2) the specific substance derived from the parent tumour.

Dr. Gye was followed by Mr. J. E. Barnard, who spoke on the microscopical examination of filterable viruses. Our readers have recently had the opportunity of studying the masterly exposition by Mr. Barnard on this subject (THE LANCET, July 18th), and his remarks at Bath covered the same ground as this paper.

Dr. M. H. Gordon pointed out that there are two obvious criteria wherewith we can differentiate viruses—namely, (1) their highly specialised pathogenicity, and (2) their specific immunising action. Three years ago he had submitted a paper to this section of the B.M.A. meeting at Glasgow on the influenza virus, but owing to lack of material, ignorance of how to handle the virus, and the difficulty of recognising the disease in the inoculated animal, he had abandoned this study and resorted to a humbler virus, a supply of which was always available—namely, vaccinia. For the last three years he has been studying this virus by the experimental method and the results have been embodied in a report to the Medical Research Council which is now in the press. Dr. Gordon showed a number of lantern slides illustrating the methods used in this research and some of the results obtained. The main conclusions to which this work has led are, first, that both vaccinia and variola viruses are particulate and largely retained by the Berkefeld filter. He declared that the presence and abundance of the virus can be measured, within limits, by the quantitative virulence test and by such serological methods as complement fixation and agglutination. He has satisfied himself that active immunity can be produced to vaccinia with either attenuated or killed virus provided the dose is sufficient. He reported some remarkable instances of the capacity of vaccinia to excite acute nasal catarrh. He noticed that the flocculi deposited from suspensions of vaccinia or variola virus by specific agglutination are composed of spheroidal bodies closely resembling those Mr. Barnard found in cancer cultures. Similar bodies have been found in flocculi from precipitin reactions. Further investigation along this line was not made, the immunity and serological questions being the chief preoccupation of Dr. Gordon's research.

Dr. Gordon was followed by Dr. J. E. McCartney, who began by saying that Dr. Gye was fortunate in having selected for study a tumour that could be examined under experimental conditions in its proper host. To learn more of the nature of filter-passing viruses we must turn to the simplest and those most easily studied, such, for instance, as the virus of mosaic disease of tobacco and tomatoes. The difficulties of work with human virus diseases was exemplified in his own experience with influenza, measles, common colds, and febrile herpes. All these diseases, not being natural infections of laboratory animals, offer perplexing difficulties, and it often remains extremely difficult to say with certainty whether or not the disease has been transmitted. Dr. McCartney explained the failure of the filtration of brain tissue from rabbits dead from herpetic encephalitis as being due to the fact that the lipoid material from the brain is in a state of colloidal suspension, and the pores of the filter become clogged with it. If, however, a small piece of the infected brain be placed in a tube of 2 per cent. glucose broth and incubated for 48 hours at 37° C., the virus passes out of the brain tissue into the surrounding broth, which, if filtered through a Berkefeld filter, is found to have retained its infective power. Dr. McCartney was emphatic that cloudiness in Smith-Noguchi medium does not necessarily mean virus growth, as this is frequently seen in sterile uninoculated control tubes. Smith-Noguchi medium, except for the growth of "globoid bodies" of poliomyelitis and *Bacterium pneumosintes*, is unsuitable for the cultivation of filterable viruses. The granules seen in stained films from cultures are not the actual virus. Animal experiment is the only reliable test for the presence of filterable viruses, but in this work the importance of adequate controls cannot be overestimated, as proved by a recent experience in which a virus disease appeared in experimental animals, a virus which was not ætiologically connected with the disease being studied.

Discussion.

At the conclusion of Dr. McCartney's paper a discussion took place, in which the following took part: Dr. J. A. Arkwright, Dr. M. Coplans, Dr. R. P. Garrow, Prof. Ledingham, Dr. Manson, Dr. J. Menton, Dr. Pybus, and Dr. Stephens.

At the President's suggestion the discussion was conducted in an informal fashion, and, for the most part, it took the form of questions which were addressed to either Dr. Gye or Mr. Barnard or Dr. Gordon. Neither Dr. Gye nor Mr. Barnard could be persuaded to go beyond their written word. Dr. Gordon and Prof. Ledingham both spoke on their recent researches on vaccinia. Dr. Coplans spoke of the differences which exist between different filters and pointed out many possible fallacies in filtration experiments.

SECTION OF MEDICAL SOCIOLOGY.

FRIDAY, JULY 24TH.

Standardisation and Purity of Milk.

This section, under the presidency of Dr. C. E. S. Flemming, devoted two sessions on July 24th to the subject of milk-supply. The morning discussion was opened by Dr. R. Stenhouse Williams, of the Reading Institute, who said that the educational effect of the examination of milk might in time largely obviate its necessity as a control; for its own good the industry would offer only the best to the consumer. Bacteriological standards for cleanliness of milk were only introduced into England in 1917. At that time sufficient work had been done to justify a tentative standard for Certified milk of 30,000 per cubic centimetre and the absence of *B. coli* in two out of three tubes of one-tenth of a cubic centimetre. In New York the numerical standard was 10,000, and there was no standard for *B. coli*; he thought that the English standard, by the inclusion of the *B. coli* test, was a better means of controlling methods of cleanliness. As time progressed, and with the introduction of the Dairies Act of 1922, it had become possible to lay down further standards for different grades. The *B. coli* test did not apply to pasteurised milk. Dr. Williams then gave a series of results obtained at different periods of the year. These showed that it was possible to maintain the Ministry's standard for Certified milk, and that clean production depended not so much on the buildings and equipment as upon the skill of the workers and the unflagging interest of the farmer or milk dealer. The Ministry of Agriculture had done much to create this skill and interest—by demonstrations at cattle shows, by the distribution of literature, and, most of all, by the ever-increasing number of clean-milk competitions. In arranging these competitions it was desirable that they should continue for a long period—e.g., six or twelve months—so that a new habit of mind would have time to develop. Results hitherto obtained had shown the great value of bacteriological examination, by which alone it was possible to rescue the work from a fog of talk. The Ministry of Agriculture was encouraging agricultural colleges and county educational authorities to appoint agricultural organisers, who would not only carry out bacteriological tests but would go down to the cowsheds and the premises of the dairymen to study the conditions under which the work was done. Several such appointments had already been made.

Dr. W. G. Savage (county M.O.H., Somerset) said that the public health administrator made four demands on milk supplied: (1) That it shall not transmit infectious diseases; (2) that its nutritive qualities shall be maintained; (3) that no chemicals shall be added to it to the prejudice of the consumer; (4) that its price shall be as low as practicable after the above three postulates have been satisfied, so as to be readily available for the community. The third demand had been already met by the legislature.

He thought that bacteriological standards should be used as a help to the trade and for picking out the worst cases. He was not yet in favour of a fixed bacteriological standard, non-compliance with which should be a punishable offence—the method adopted in the U.S.A. As regards the nutritive quality, it was well known that the average fat-content of milk, as judged by the examination of samples, was about 3·6; whereas the presumptive standard was only 3 per cent. If the presumptive standard were made a legal one, it would be unfair to the smaller purveyors and producers. The big companies with skilled staffs and working with large quantities of milk would be able to reduce their milk to the standard to a nicety; whereas the small man would be unable to hit the happy mean between a profitable abstraction of fat and an excessive but illegal removal. Milk producers who delivered milk below the standard should receive prompt notice, and the mixed milk of the herd should be sampled before any question of prosecution arose. Dr. Savage also considered that reasonable methods should be gradually introduced for keeping up the vitamin content of the milk. If we freed ourselves from the demands of extremists, there was nothing to prevent the milk-supply being rendered safe without an appreciable increase in cost. The Committee on Milk Production had pointed out eight ways in which cost might be lowered, one of which was the elimination of unprofitable cows by means of milk recording. Undoubtedly the cost of the supervision of the milk-supply would be increased by the new proposals. This, however, would not fall upon the milk trade, but rather on the general public health expenses of the country, and therefore it would not affect the price of milk.

Dr. Eric Pritchard spoke from the point of view of the clinician. Although milk was such a valuable food that any attempt by legislative or other means to attain Utopian ideals of cleanliness, irrespective of cost, would be little less than a national calamity, it was at the same time without question the most dangerous vehicle for the conveyance of infectious disease. Experience in this country and in the U.S.A. had shown that the commercial production of a raw milk, which is safe from this point of view, is an impracticable proposition. Complete safety could only be obtained from milk rendered sterile immediately before consumption. If we were prepared to dispense with absolute safety and to accept relative safety, the only solution was the commercial pasteurisation of the whole milk-supply. The old bogy that the nutritive qualities of milk were seriously prejudiced by the process of pasteurisation had, he hoped, been finally disposed of. For his part he was well satisfied with the standard required under the Milk Designation Order (1923), provided that the pasteurisation of all milk not reaching the Grade A standard was made obligatory.

Discussion.

Mr. Wilfred Buckley (National Clean Milk Society) stated that if cows got sufficient food it was impossible to increase the fat-content of the milk by choice of food. He did not see how the vitamin-content could be kept up during the winter. In his herd of about 80 cows the milk frequently contained less than 3 per cent. of fat, although the average was well up to 3·6 per cent. He did not believe that the practice of "toning" down the milk was in operation. Mr. Quinton (sanitary inspector, Liverpool) spoke in favour of the value of methods as contrasted with structures for producing milk with a low bacterial count. He believed that "toning" was practised. Mr. Ben Davis (United Dairies) said the home was the worst source of contamination. There was no "toning" of milk. The records of his company showed a progressive improvement in the cleanliness of milk supplied to it, as shown by bacterial count. Mr. J. C. Coleman, M.R.C.V.S. (Swindon), drew attention to the high charges made for the distribution of milk and to the impossibility of cleaning milk once dirtied. Mr. Tusting (lecturer to the United Dairies Co.) said he had leave to refer to an experiment recently carried out by the Medical Research Council showing the great improvement in school-children resulting from the addition of extra milk to their diet, and the fact that there was no deterioration in properly pasteurised milk. The report would be published in the autumn. Chicago was now supplied with 98 per cent. pasteurised and 2 per cent. Certified milk.—Mr. S. R. Whitley (British Dairy Farmers' Association) appealed to the doctors to say "Drink more milk."—Dr. H. Scurfield agreed that we should drink more milk; but in order to achieve that object the doctors must be convinced that the milk was safe. The protection of milk in the home was not the subject for discussion. The suggestion that the milk was contaminated in the home was no excuse for the delivery by the trader of contaminated milk.

Dr. Stenhouse Williams and Dr. Savage replied. Dr. Savage did not think, from his experience in Somerset, that distributing companies made any effort to encourage the farmers who supplied them with milk to deliver it in a clean state. He still thought that "toning" was practised.

The morning session concluded with the exhibition of two films showing methods of clean-milk production on the farm, and of pasteurisation on a big scale.

Milk-supply and Cost.

During the afternoon the section continued the discussion on milk-supply and cost. Mr. Wilfred Buckley spoke from the producer's standpoint. It was for various reasons at present impossible for the majority of farmers to maintain tubercle-free herds. Mainly by the Government's efforts the number of tubercle-free herds had increased from two or three to upwards of 250; but tubercle-free milk was unlikely to become general in this generation's life-time. Decent cleanliness was, however, practicable, and by coöperation the entire milk-supply could be raised to Grade A standard. The public should be educated to require this standard. He estimated that clean methods on the part of the dairy-farmer cost about ¾*d.* per gallon and that the sterilisation of apparatus cost about ¼*d.* per gallon, and that a further expenditure of 2*d.* per gallon was necessary to maintain a tubercle-free herd. Mr. Buckley made a strong protest against the doctrine of Dr. Clive Riviere, expressed at the recent Tuberculosis Conference in London, that raw cow's milk should be given to infants in the hope that it contained a few bovine tubercle bacilli and might therefore produce a certain immunity against the human bacillus. Ordinary raw milk might contain no tubercle bacilli, or it might contain an excessive dose. Such a proposal was therefore quite unscientific.

Mr. George P. Male, M.R.C.V.S. (Reading), speaking as a veterinary surgeon, said that he was satisfied that the use of the tuberculin test, together with proper facilities for isolating reactors and for the breeding and rearing of non-tuberculous young stock, could be relied upon to secure a healthy herd within a reasonable time. It was much to be hoped that the Medical Research Council would be able to evolve a test which would be less expensive for the owner. The number of reactors found in a herd might vary from 5 per cent. to 90 per cent. It was a sound economic proposition to make a herd tubercle-free for many reasons. (1) The loss from wasters may amount to £300 a year in a herd of 50 cows. (2) Tubercle-free cows hardly ever need the help of a veterinary surgeon. (3) The average life of a tubercle-free cow is longer. (4) Cows suffering from a wasting disease like tuberculosis are more expensive to feed. (5) In the case of pedigree herds animals cannot be sold to foreign buyers unless they pass the test. (6) When a cow is tuberculous, sooner or later tubercle bacilli will find their way into the milk. When this occurs the owner will have to take steps to find the offending cow or cows. He may have his milk banned, or, under the new Act, he may be fined or lose his licence. (7) There is a ready sale at enhanced price for young stock from tubercle-free herds. (8) When sold to the butcher there will be no loss for subsequent condemnation. The public was now beginning to realise the value of clean milk from healthy cows and to be prepared to pay for it. Mr. Male believed that the production of Grade A tuberculin-tested milk cost the producer less than 3*d.* per gallon extra, and there was no reason why this milk should not be used by all. The producer, however, was waiting for a market, and the distributor for an assured supply. If medical men throughout the country recommended this class of milk, the whole of the milk-supply would be revolutionised.

Mr. J. H. Maggs (chairman of the United Dairies Co.) said that the volume of milk from tuberculin-tested cows was not likely within this generation to exceed a small percentage of the whole. He hoped something would come from the Spahlinger method of immunisation. He thought the reintroduction of the Tuberculosis Order would involve a sheer waste of public money. The sheet anchor of the distributors would for long be pasteurisation. He thought they should go slow with the idea of a maximum count; but that, as time went on, they would be able to lower the counts and make the examination more stringent.

Prof. Walker Hall (pathologist, Bristol Infirmary) said the Government standards were tentative, and could be tightened up gradually. Patient education of the staffs engaged in the milk trade was necessary. Progress had been slow in Bristol during the last 16 years, but more rapid recently. They must help rather than prosecute the farmer.—Mr. Cumber (farmer, Reading) believed that bovine tuberculosis could be eradicated in 20 years. A penny per gallon would pay for clean milk methods and 2*d.* per gallon for the added cost of maintaining tubercle-free herds.—Mr. Boutflour (agricultural organiser, Wiltshire) spoke on the great educative value of clean-milk competitions. The large proportion of reactors so frequently found in a herd was a legacy from past days of over-milking, bad feeding, and bad housing.—Mr. J. R. Catmar, M.R.C.V.S. (Abingdon), said there was very little clean milk and that much was still produced under appalling conditions.—Mr. Quinton testified that the Tuberculosis Order of 1914 was a valuable measure during the period when it was in operation.—Mr. Coleman said that tuberculin testing was often inefficiently done. Also there was the difficulty caused by doping.

Conclusions.

The speaking clearly indicated the variety of interests represented, which included the National Farmers' Union, the British Dairy Farmers Association, the Sanitary Inspectors Association, the United Dairies Ltd., and the Association of Women Sanitary Inspectors and Health Visitors. To anyone who had attended the milk conferences held in this country during the past four or five years it is obvious that some progress towards a better supply has been made, and that the Ministry of Agriculture is actively promoting better methods. But it is equally obvious that much remains to be done to educate the public (1) in the need for cleaner milk, and (2) in the greater use of milk as a food.

EXHIBITION OF INSTRUMENTS, DRUGS, FOODS, AND APPLIANCES.

The usual exhibition was held in the Markets from July 21st to 25th. It was opened by Mr. W. G. Mumford, F.R.C.S., on behalf of the President-Elect, in the presence of a large gathering of representatives and visitors, on Tuesday morning. The Mayor of Bath (Mr. Cedric Chivers, J.P.) offered his congratulations to the Association on the great improvement in the Market Hall brought about by the floral and other decorative effects. Mr. Mumford said that one of the most important factors in the success of an annual meeting was the existence of such a commercial and educational exhibition as that before him. The advance of science had made it a far more complicated undertaking than in previous years, and this year some 86 stalls were furnished.

CANCER RESEARCH IN MANCHESTER.—For several years cancer research has been carried on in Manchester by the Christie Hospital, by the Pilkington and Helen Swindell's trust at the University, at the Radium Institute, and at the Royal Infirmary. The various research agencies are now coördinated by a committee which proposes to extend them. Dr. R. Veitch Clark (M.O.H., Manchester) is chairman of the general committee, Sir William Milligan is chairman of the executive, and Dr. E. M. Brockbank is chairman of the research committee. The work will have the strong support of the Ministry of Health, and a considerable programme has been arranged.

Correspondence.

"Audi alteram partem."

DISABLEMENT FROM CHRONIC RHEUMATISM.

To the Editor of THE LANCET.

SIR,—All those who are employed in physical treatment must have read with interest the letter on this subject in your issue of July 11th, for the nature of our work brings before us this particular class of sufferer in bulk. The amount of disablement and of suffering due to this cause is appalling, and the sooner something definite is done to reduce both the better. The object, however, of this letter is to emphasise four particular methods of alleviation.

(1) It is remarkable how many patients with non-articular rheumatism are found to be suffering from an habitual low fluid intake. Indeed, among women particularly, this error in diet would seem to have far more important bearing on the development of their rheumatism than any other single factor. Anyway, this much may be said, that while the daily fluid intake is reduced, and many of these patients habitually consume under a pint and a half a day, no form of physical treatment will help them. As soon as the intake is increased to four or more pints a day, other causes being absent, treatment becomes efficacious. This, of course, is simply a question of education, but one which is terribly neglected.

(2) The letter draws attention to the part played by endocrine disturbance in many of these cases and suggests, as did an annotation in THE LANCET of May 9th (p. 986), the possibility of endocrine therapy. This has, I think, been unquestionably established, although perhaps little realised. In a large percentage of the non-articular type of case, even when the fluid intake is adjusted, patients seem to develop a new focus of pain directly the old one has been cleared up. For some two years now it has been my custom, when this story becomes evident, to ask Dr. H. Gardiner-Hill to investigate the metabolism, and the frequency with which physical treatment becomes curative and not palliative as the result of scientific dosage with pituitary and thyroid has been most striking. Time after time complete failure has been turned into striking success. The same applies, only in lesser degree, to the articular varieties.

(3) Occasionally in similar cases metabolism is reported as correct, and, in the absence of obvious focal bases of infection, it is necessary to turn to less obvious foci. To the most important of these attention was drawn recently by Dr. A. E. Cumberbatch and Dr. H. Robinson at the Royal Society of Medicine in a communication which attracted far too little notice—namely, the value of diathermy in disinfecting the cervical canal. By this means again, time after time, apparently hopeless cases have proved to be completely curable, or, if not, the progress of disease has been arrested.

(4) It must not be forgotten that all cases of so-called rheumatism are not what they seem, and no form of physical (or medicinal) treatment which aims at the cure of rheumatism will cure either lumbago or the pseudo-sciaticas that are due to lesions of the sacro-iliac or lumbo-sacral joints.[1]

Of course, these four suggestions as regards possible treatment cannot in any way be supposed to touch more than the fringe of the trouble. There will still remain innumerable cases with which we shall have to grapple where infection arises from nose, teeth, tonsils, chest, and abdomen. The first and last often present apparently insuperable difficulties in their present state of our knowledge. But even so, a large amount of suffering and incapacity could be saved by the regular consideration even of these four points alone. I am, Sir, yours faithfully,

JAMES MENNELL.

Park-crescent, Portland-place, W., July 20th, 1925.

[1] THE LANCET, Sept. 22nd, 1917, and April 19th and 26th, 1924.

ANURIC DIABETIC COMA.

To the Editor of THE LANCET.

SIR,—In his valuable paper on the above in your issue of July 11th, Dr. A. C. Begg states that "clinically, the most prominent symptoms were vomiting, restlessness, and feeble, quick pulse." This is distinctly interesting; it brings the cases of anuric diabetic coma more or less into line with the toxæmia arising in acute intestinal obstruction. In this latter condition the impaired renal function has been imputed to an absorption of toxic proteoses formed in the distended gut; but I have shown that the absorption of such proteoses is unreasonable, and, moreover, that the evidence on which the opinion of the renal impairment was assigned (put forward by one set of workers at least) is untenable.[1] I put forward the plea that in acute intestinal obstruction the renal (and probably the hepatic) impairment is the direct result of the vomiting, straining, restlessness, and doubtless the abdominal distension. It occurs to me that the vomiting and restlessness in diabetic coma or in the pre-comatose state may be the effective cause, determining the anuria which Dr. Begg has occasionally noticed in his cases.

In spite of the fact that marked and persistent vomiting, however caused, makes people feel very ill, as, for instance, in prolonged sea-sickness—as many of us from our own experience can testify; in spite of the pernicious effect of marked and persistent vomiting in patients recovering from post-operative anæsthesia—patent to all surgeons; in spite of the fact that in pregnancy, persistent vomiting *causes* a toxæmia—an hepatic and renal derangement—as shown by the effect of stopping the vomiting—an end admitted of pre-eminent importance by all obstetricians; the idea that vomiting is a pathological force has not been received by the profession as reasonable. In this age of serums, vaccines, and toxæmias, in which so many diseases are imputed to endolytic poisons, physical causes are discounted. Yet what a toxæmia arises in uncompensated valvular cardiac disease; in pulmonary pathological processes (e.g., emphysema); in obstruction of the biliary and renal systems! Cut off or greatly diminish the blood flow through a part, how can it function normally, or the whole body be well?

It is true that Dr. Begg states that all patients with diabetes going into coma or already comatose, whether anuria arise or not, usually vomit; but I take it from his statement that the prominent symptoms of the anuric type are vomiting and restlessness, &c., that the vomiting and restlessness in these is greater than in the other, the non-anuric type. To understand how persistent vomiting can affect the kidney, we must realise that the blood in the renal artery has a choice of two paths: it can either go through the cortex or through the medulla (via the arteriæ rectæ); and that this choice is determined by the respective resistances in the cortex and medulla. When we remember that the urine is secreted in the cortex and flows through the medulla, so do we see that the pressure in the cortex (however small be the difference) must be greater than that in the medulla (as Brodie believed). With the compression of the kidney by the act of vomiting, all these channels for the moment are either obliterated or greatly narrowed, or tend to be; with the relief of the compression which follows the act, if the pressure of the urine in the medullary uriniferous tubules is less or much less than that of the blood in the arteriæ rectæ, so will the medullary capillaries be distended

[1] The Toxæmia of Acute Intestinal Obstruction. H. K. Lewis and Co. 1923.

with a pressure effectually blocking the exit of urine from the cortical uriniferous tubules.

Clifford White has shown that in puerperal anuria (or oliguria) the renal tubules in the cortex are dilated; I have confirmed this in an experience of my own (not yet published). Dr. Begg states that in his cases of anuric diabetic coma the symptoms were those of obstructive suppression of urine. In these cases "certain changes" have been found "which suggest the kidney is an all-important factor." He promises us a further contribution on this part of the subject, which will be awaited with restless interest. Meanwhile, may I make two suggestions? The one is that Dr. Begg, in his cases of diabetic coma, should regard vomiting as an important pathological force, prone to determine renal aberrations. The other is clinical: that patients with this disease and impending complication should be placed on their side; that all means be adopted to limit or prevent vomiting; and that in the worst cases decapsulation of the kidney should be done. If the patient is to die, it makes no difference whether this event occurs in the theatre or ward; in eclampsia, patients almost in extremis have been saved by decapsulation; in diabetic coma, if the blood-sugar has been made to become normal by insulin, the objection to operation surely subsides. Decapsulation acts by relieving the cortical pressure (in which the capsule of the organ plays an important part); it allows blood to flow again through the cortical vessels, which distension of the uriniferous tubules prevented; and since blood can now flow through the cortex, there is less to go through the medulla; thus the block is removed, the vicious circle broken.

I am, Sir, yours faithfully,

Rugby, July 11th. R. H. PARAMORE, F.R.C.S. Eng.

To the Editor of THE LANCET.

SIR,—Dr. A. Clarke Begg classifies diabetic coma into two groups: one the usual type with acidosis and normal blood-urea; the other, the anuric type with slight or no acidosis, very high blood-urea, very high blood-sugar, and urine volume decreased even to anuria. This classification does not seem to me adequate. Last year Dr. E. F. Skinner and I reported in your columns[1] a case of diabetic coma with anuria, under the care of Prof. A. J. Hall, which cannot be placed in either of Dr. Begg's groups. The blood analysis in this case on admission yielded the following results (per 100 c.cm.): Blood-sugar, 0·957 g.; blood non-protein nitrogen, 110 mg.; plasma bicarbonate, 15·7 mg.; ketone bodies, 59·13 mg.; blood chlorides, 0·465 g. The low plasma bicarbonate and the degree of ketonæmia indicated a severe grade of acidosis not found in Dr. Begg's cases. Otherwise the findings are similar to those he observed in the cases of coma associated with anuria. It seems, therefore, necessary to consider at least two types of "anuric diabetic coma" according to the degree of concomitant acidosis.

I am, Sir, yours faithfully,

Sheffield, July 19th, 1925. C. GRAY IMRIE.

TUMORS AND CANCERS: A COMPLAINT.

To the Editor of THE LANCET.

SIR,—In your issue of May 23rd is a review of a work by Mr. Hastings Gilford on "Tumors and Cancers." This review struck me, as it has struck others, as an unjust and misleading statement of the nature and scope of the book. It conveys the impression that it is written by one who is himself a cancer researcher, in the narrowest sense of the word, and has taken advantage of the opportunity to make an onslaught on a book distinguished by its breadth and catholicity of view and which therefore puts his own particular work into its proper perspective. Some of his remarks were written obviously with the intention of creating prejudice. Thus one of the undoubted, if unavoidable, faults of the book is its bulk, but this bulk is largely due to the evident determination of the writer to support every statement with an ample backing of evidence. It is therefore an obvious and flagrant misstatement to say that the author's conceptions "are so often supported by simple assertions, by bad reasoning." Indeed a more logical or rational exposition of a difficult subject it would be hard to name. Such a statement could only have been made by one who had confined his reading to the "conclusions" and to mere glimpses at the main structure of the book. As for the other comments, some, such as that about alcohol, which is a truism, could have no other purpose than to bias the reader against the book. Then there is a grave and palpable omission. The reviewer is so occupied in his search for weak spots or for sentences which can by dislocation be made to appear gauche or ridiculous that he fails to do justice to the merits of the book. He dwells on those theoretical aspects and frills which he finds so disagreeable and says next to nothing of the real structure. In short, he displays his own personal feeling, but does not review the book.

Now, Sir, I should not have drawn attention to this subject now were it not for the circumstances that such a book as the book in question is so much needed at this juncture in order to form a background for recent achievements in laboratory research. It is therefore exceedingly unfortunate that an important volume containing such a recent and balanced outlook and review of cancer work in all its aspects should have been treated so scurvily by your reviewer.

Finally I may add that in writing as I now do I am expressing not only my own opinion but those of others who are equally impressed with the injustice that has been done and with the desire that the information contained in "Tumors and Cancers" should not be suppressed but should be broadcasted to all who wish to take a sane and just view of the present situation.—I am, Sir, yours faithfully,

Basingstoke, July 26th, 1925. NOLAN DALY.

THE REMUNERATION OF R.A.M.C. OFFICERS.

To the Editor of THE LANCET.

SIR,—The action of the British Medical Association with regard to the Royal Army Medical Corps recalls their similar action a few years ago with regard to the Royal Naval Medical Service. It is further an admitted fact that there is great difficulty in obtaining medical men for all three combatant services. It is to be hoped that the present dispute will lead to an exhaustive investigation of the lack of attraction to these great services. In my opinion a supply of good men will be obtained only if the opportunities to do first-class *medical and surgical* work and to keep themselves abreast with advances in their professional work are afforded. Such opportunities under existing circumstances are quite inadequate. Some time ago I submitted a comprehensive scheme to a committee, which included the Directors-General of the three medical services. It was damned with faint praise; but I do not despair that some such scheme may yet receive the official benediction.

I am, Sir, yours faithfully,

J. HERBERT PARSONS.

Queen Anne-street, Cavendish-square, W.,
July 23rd, 1925.

AN ACKNOWLEDGMENT.

To the Editor of THE LANCET.

SIR,—In connexion with the second edition of the "Encyclopædia Medica," Vol. XIII., article Diabetes, we have to regret that on p. 641 an acknowledgment was not made of the nomogram there represented to Dr. W. M. Feldman and Mr. A. J. V. Umanski, the authors of the article in THE LANCET, Feb. 11th, 1922, p. 273, where the nomogram originally appeared.

We are, Sir, yours faithfully,

Edinburgh, July 23rd. W. GREEN AND SON, LTD.

[1] THE LANCET, 1924, i., 14.

Obituary.

HARRY DRINKWATER, M.D., F.R.S. EDIN., M.SC. (HON. CAUSA) WALES.

Dr. Harry Drinkwater, who died at his residence in Wrexham on July 11th at the age of 70, received his medical education at the Universities of Durham and Edinburgh, qualifying in the year 1877. Eight years later, at the M.D. Edin. examination, he took a gold medal for his graduation thesis. In 1890, after several years of practice at Sunderland, he removed to Wrexham, and was appointed physician to the Fever Hospital there. He became closely interested in the clinical diagnosis of diphtheria and other exudations in the throat, and in a carefully illustrated paper contributed to our columns in 1920 he showed how the distribution of patches of membrane may serve for provisional diagnosis of a very high degree of accuracy before bacteriological examination can be made; and, although some of his views were criticised, he gave good reason for his belief that diphtheria can be diagnosed without bacteriology. Dr. Drinkwater was a man of wide interests, a justice of the peace for the borough of Wrexham, a Vice-President of the Chester Natural History Society, and a member of the Linnean Society. Not long ago he presented to the Welsh Natural History Museum at Cardiff a collection of botanical studies from his own brush. Last year he published a little book setting forth the main lines on which medicine had progressed during his life time, a book calculated to revive the failing heart of pessimists who see only the fields untilled in medicine. A year ago he received the hon. M.Sc. from the University of Wales. Dr. Drinkwater was twice married and is survived by three children of the first marriage and by his second wife, whose is a medical graduate of London University.

WILLIAM MONTAGU VENABLES WILLIAMS, L.R.C.P. EDIN., D.P.H.

Dr. Venables Williams, who died on July 13th at Colwyn Bay in his sixty-eighth year, was one of the most respected and, until his health began to fail, one of the busiest practitioners in North Wales. He was the only surviving son of the late Rev. W. Venables Williams, formerly vicar of Llandrillo, and one of the founders of Colwyn Bay as a health resort. He studied at the Liverpool School of Medicine and at Edinburgh, qualifying L.R.C.P. & S. Edin. in 1882, and after middle life qualified for the post of medical officer of health by obtaining the D.P.H. He remained until his death health officer to the urban district of Colwyn Bay and honorary physician to the Colwyn Bay Cottage Hospital. He is survived by his widow.

THE LATE DR. HAROLD CLIFFORD.

WE briefly announced in our issue of July 18th the death of Dr. Harold Clifford at Manchester. Dr. Archibald Donald writes: "His death came as a shock to his friends. His health had not been good for some three or four years, but there had been nothing definite apart from a sudden loss of vision in April last due to intracranial hæmorrhage. But his eyesight had improved and he was in good spirits again. On July 5th he was ill with what appeared to be a gastric disturbance, and he died on July 7th from a severe cerebral hæmorrhage. You have already mentioned some of the many important posts which Dr. Clifford held in Manchester. He was a member of the North of England Obstetrical and Gynæcological Society for many years, and held the office of President in 1922. He was widely known as a wise adviser and a skilful surgeon in his own department and had a large practice.

"Dr. Clifford was handicapped for the struggle of life by ill-health. He gave an example of what could be accomplished by a courageous and resolute spirit in a frail body. He was never fitted for any form of severe physical exercise, and the recreation of outdoor games or any kind of sport was barred to him. As it was he found his pleasure in his work during the day, and in reading and in the society of his friends in the evening. He was an excellent host and seemed to be happiest when he was entertaining a small circle of friends. His manner was quiet, and although he held so many important appointments and had attained to a position of distinction in his special department, he preferred to remain in the background himself. He will be missed by a large circle of friends and perhaps most of all by his colleagues."

EVAN EVANS, M.B. CAMB., F.R.C.S. ENG., SURGEON LIEUTENANT-COLONEL.

THE death has occurred at Bury Port of Dr. Evan Evans in his seventy-second year. Studying at Cambridge and St. Mary's Hospital, he graduated as B.A. in 1882 and as M.B., Ch.B. in 1886. He became demonstrator in physiology and pathology at St. Mary's Hospital and clinical assistant in the ophthalmic department there and also at the Royal London Ophthalmic Hospital. In 1888 he took his D.P.H. and in 1894 became F.R.C.S. Eng. Dr. Evans settled in Llanelly, where for over 30 years he has been medical officer of health for Llanelly rural district. He was Surgeon Lieut.-Colonel of the 4th Batt. Welsh Regt. (T.F.) and an ex-President of the South Wales and Monmouth branch division of the B.M.A.

MARY EVA HASTINGS MORRIS, M.D. LOND.

AFTER a prolonged illness Dr. M. E. H. Morris died on July 11th at Bath, where she had been in practice for several years and where she had gained a large circle of friends. After studying at the London School of Medicine for Women she took the M.B. degree in 1902 and the M.D. in 1913. Before settling in Bath Dr. Morris was house surgeon in the North Devon Infirmary and physician to out-patients in the Bristol Royal Hospital for Sick Children and Women. In Bath she was school medical officer from 1908 to 1917, and she acted as assistant pathologist in the Bath War Hospital. There was a large congregation at the funeral service in Bath Abbey on July 15th, and on the following day the interment took place at Ystradmeury, Cardiganshire.

RICHARD HENRY GRIFFITH, L.R.C.P. EDIN.

THE death took place at his home in Nevin, Carvarnonshire, of Dr. Richard H. Griffith on July 13th at the age of 61. He was taken ill on the Saturday previous when playing golf. Well known in athletic circles in North Wales, he was an ex-captain of Nevin and Abersoch Golf Clubs. An experienced yachtsman, he often acted as commodore at the annual regattas in South Carnarvonshire. After studying at University College, London, he qualified L.R.C.P. and L.R.C.S. Edin. in 1892, having been a house physician in the skin department in University College Hospital, London. Besides having a large practice, he was medical officer of health for the Pwllheli union. Dr. Griffith leaves a widow and one daughter.

WORK OF PENSIONS MINISTRY.—Major G. C. Tryon, Minister of Pensions, opening the new Ministry of Pensions Hospital in Mossley Hill, Liverpool, on July 14th, said that since the Ministry was started in 1917 it had spent in its efforts to alleviate suffering a sum which, including the present year, would have paid off the whole of the National Debt before the war. This year it was spending £66,000,000. At the height of this work in 1920 they were providing treatment, or arranging for it through the civil hospitals, for 150,000 men. Up to the present time, not counting allowances, £39,000,000 had been spent on actual treatment of the sick and wounded, and among the men who had passed through the hospitals were 39,000 who had lost limbs. The number now receiving treatment of various kinds was 40,000. The new hospital at Liverpool is part of a scheme for the reduction and centralisation of Ministry of Pensions medical institutions.

The Services.

ROYAL NAVAL MEDICAL SERVICE.

Surg. Comdr. E. R. Townsend is placed on the Retd. List with rank of Surg. Capt.

ROYAL NAVAL VOLUNTEER RESERVE.

Surg. Lieut. (D.) A. G. D. Pridham to be Surg. Lt.-Comdr. (D.).

ROYAL ARMY MEDICAL CORPS.

Lt.-Col. C. G. Thomson retires on retd. pay on account of ill-health.

Maj. A. C. Vidal, half-pay list, late R.A.M.C., retires on retd. pay on account of ill-health.

Capt. J. Vallance retires, receiving a gratuity, and is granted the rank of Maj.

ARMY DENTAL CORPS.

Temp. Capt. E. H. C. Caute, from Gen. List, to be Capt.

TERRITORIAL ARMY.

Maj. A. Topping (late R.A.M.C.) to be Capt. and to relinquish the rank of Maj.

Capt. G. J. Linklater, from General Hospital List, to be Capt.

Capt. G. D. Yates, R.A.M.C., to be Divisional Adjt. 52nd (Lowland) Div., R.A.M.C., T.A., and School of Instruction, vice Capt. R. C. Aitchison, R.A.M.C.

Supernumerary for Service with the O.T.C.—University of Lond. Contgt., Sen. Div.: Capt. H. H. Woollard to be Maj. (Prov.).

The King has conferred the Territorial Decoration upon Lt.-Col. (Bt.-Col.) G. C. E. Simpson and Majs. A. A. Hingston and S. F. Linton.

TERRITORIAL ARMY RESERVE OF OFFICERS.

Lt.-Col. (Bt.-Col.) W. Bowater, from Active List, to be Lt.-Col. (Bt.-Col.).

Maj. E. J. Boome, from Active List, to be Maj.

ROYAL AIR FORCE.

Flight Lt. E. N. H. Gray is promoted to the rank of Squadron-Leader.

Flying Officer G. Clark is transferred to the Reserve, Class D.2.

DEATHS IN THE SERVICES.

Sir W. Launcelotte Gubbins, K.C.B., M.V.O., K.H.S., formerly Director-General A.M.S., who died recently, at the age of 75, from the effects of a cycling accident, was the son of the Rev. George Gubbins, Prebendary and Chancellor of Limerick. He graduated in arts and medicine at Trinity College, Dublin, in 1872, after passing a brilliant undergraduateship, being Erasmus Smith scholar. In 1873 he was gazetted as a surgeon in the army, and obtained his first experience in the field under the late Lord Roberts during the Afghan campaign of 1878. He was in medical charge of the 1st Battalion 5th Fusiliers in the operations in the Bazar Valley, and later became medical officer to Lt.-Gen. Sir Francis Maude, V.C., and saw much of the fighting in the Khyber Pass. Later he became divisional sanitary officer and secretary to the P.M.O. While still a junior in rank he was posted to Lord Wolseley's forces in Egypt during the suppression of the 1882 revolt, and after his promotion to Surgeon-Major in 1885 was sent out to India under Lord Roberts in the Burmese campaign. In 1894 he became Assistant Director at the War Office, his term of office embracing the period when the old Army Service became a Royal Corps, and he did much to develop the movement for voluntary aid in connexion with the Red Cross as a member of Lord Wantage's Committee. In 1899 he again served under Lord Roberts as P.M.O. to the 6th Division in the South African War with the local rank of Colonel, was at the relief of Kimberley, at Paardeberg, and entered Bloemfontein. Later he was in the Orange River Colony and the Transvaal, and was P.M.O. at Pretoria, Pietersburg, and on the northern line of communication. He received the commendation of Lord Kitchener as a capable administrator, who had accomplished much in the battle with enteric. On his return home he became P.M.O. on the Home District staff and was appointed to the Duke of Connaught's staff for the coronation of King Edward. The successful medical arrangements for the ceremony gained him the M.V.O., and soon afterwards he was promoted to Surgeon-General. Returning to India he became successively P.M.O. in Bombay and in the Eastern Command and chief of the Medical Division in India. In 1908 he returned to England, acted as Deputy Director-General, and two years later was made honorary surgeon to the King and succeeded Sir Alfred Keogh as Director-General of the Army Medical Service. During his term of office he greatly improved the physical standard of the army, and by the introduction of salvarsan much reduced the period of treatment in military hospitals of cases of syphilis. During the late war he was temporarily employed in various posts and keenly interested himself in the work of the British Red Cross Society, receiving for his services the reward for distinguished and meritorious service.

Medical News.

UNIVERSITY OF LONDON.—The Committee of the Medical Members of the Senate have elected Sir Wilmot P. Herringham, K.C.M.G., C.B., M.D., F.R.C.P., to be their chairman for the year 1925–26.

Reader in Protozoology.—The title of Reader in Medical Protozoology in the University has been conferred on Mr. J. G. Thomson, M.A., M.B., Ch.B. Edin., in respect of the post held by him at the London School of Hygiene and Tropical Medicine. He was educated at the University of Edinburgh and has been lecturer in protozoology at the London School of Tropical Medicine since 1914.

In the recent examinations the following candidates satisfied the examiners:—

M.D. EXAMINATION.

Branch I., Medicine.—Percy C. Brett, St. Thomas's Hosp.; Gertrude B. G. Carden, London Sch. of Med. for Women; Edward Gallop, St. Bart.'s Hosp.; Paul C. Gibson, London Hosp.; Charles F. Harris, St. Bart.'s Hosp.; James L. Livingstone, King's Coll. Hosp.; William E. Lloyd (University Medal), St. Bart.'s Hosp. and Westminster Hosp.; Wilfrid P. H. Sheldon, King's Coll. Hosp.; John S. Sloper, St. Thomas's Hosp.; Richard H. Wade, St. Bart.'s Hosp.; and Samson Wright, Middlesex Hosp.

Branch III., Psychological Medicine.—Elizabeth C. Eaves, University of Sheffield and King's Coll. Hosp.

Branch IV., Midwifery and Diseases of Women.—Michael W. B. Bulman, London Hosp.; Macormack C. F. Easmon, St. Mary's Hosp.; and Winifred M. Gray, Hilda T. Haggett, Phœbe M. Phillips, and Elaine M. K. Salmond, London Sch. of Med. for Women.

Branch V., State Medicine.—Eleanor M. Reece, London Sch. of Med. for Women and Univ. Coll.

Branch VI., Tropical Medicine.—Khorshed S. Captain, London Sch. of Med. for Women and London Sch. of Tropical Med.; Henry C. V. Joy, London Hospital and London Sch. of Tropical Med.; Una F. M. Morton, London Sch. of Tropical Med. and Univ. Coll. Hosp.

M.S. EXAMINATION.

Branch I., Surgery.—Thomas G. D. Bonar, Guy's Hosp.; and John P. Hosford (University Medal), St. Bart.'s Hosp.

The following awards have been made in the Faculty of Medical Sciences at University College:—Cluff Memorial Prize (for proficiency in anatomy, physiology, pharmacology, and chemistry): R. M. Sargent. Anatomy: Gold Medal (Senior Class): Mary E. Sharp. Histology and Embryology: Prize equivalent to Silver Medal: Audrey Z. Baker and Margaret D. Wright (equal). Organic and Applied Chemistry: Silver Medal (General Course): D. F. Ogborn. Physiology: Gold Medal (Senior Class): J. R. Pierre. Pharmacology: Silver Medal (General Course): H. E. James.

UNIVERSITY OF EDINBURGH.—At the graduation ceremony held on July 24th the following degrees were conferred:—

DOCTOR OF MEDICINE.

Philip Barlow, *Ernest Bulmer, Sisir Chandra Chatterjee, †Leybourne S. P. Davidson (in absentia), Harold B. Dykes, Richard N. Gibson, David Landsborough, ‡Joseph C. Lorraine, ‡Kenneth A. T. Martin, ‡Solomon J. Rom, Sydney W. Smith, ‡Sahib Singh Sokhey (in absentia), May D. Stranger, ‡Brian G. Thompson (in absentia), †Thomas R. R. Todd, ‡Arthur R. Wightman, ‡Norman B. Williamson, and †Hedley D. Wright.

* Highly commended for thesis. † Awarded gold medal for thesis. ‡ Commended for thesis.

MASTER OF SURGERY.

Thomas B. Mouat.

BACHELOR OF MEDICINE AND BACHELOR OF SURGERY.

George L. Alexander, Christina W. Alston, Frank S. Anderson, George M. Anderson, Matthew D. S. Armour, Frank Ayrey, Ethel W. Barnley, John M. Bassett, David Bell, Heilet F. Bezuidenhout, James G. Bogle, Eleanor B. Bone, George I. Boyd, George G. Brander, Thomas Brewis, Anna M. Brown, James Brown, John S. Brown, William M. Brown, Joseph Bryant, Hsing Chang, James L. Chisholm, Ronald V. Christie, Robert Clark, *William J. A. Coldstream, Edwin G. Collins, John B. Colquhoun, John Comrie, Robert C. Craig, †Sidney

E. Croskery, John M. Davidson, Henry N. Davies, Eric F. Dott, Mary L. Drabble, George H. Duncan, Milad Luka El-Zik, Edgar L. Farrow, Jacobus C. Faure, Edward K. A. Firth, Charlotte E. Fisher, Charles G. Fletcher, Mary H. S. Forrest, Duncan H. Fraser, George Fraser, John A. Fullerton, Andrew N. Gardner, Margaret S. Gibb, Aubrey A. Gibbons, Alexander MacA. Gillespie, Silvio C. Gomes, Coleridge G. Gooding, Frank N. Grannum, Jessie Griffin, William Happer, Louisa B. Harper, John S. Hendrie, Edward J. C. Hewitt, John F. Hinksman, John C. Hodgson, John E. Howell, Laurence J. Howie (in absentia), Charles L. Hutson, Archibald M. de la Mazière Jamieson, Eric B. Jones, Marjory J. D. Kelly, Morris Kelman, Betty M. Kennedy, Frederick G. Kerr, John B. King, †John G. Kininmonth, Harold S. Kissenisky, William E. Knowles, Donald P. Lambert, Robert Lees, William M. Lloyd, William G. Love, *John G. M'Crie, Ogilvy J. S. Macdonald, William F. Macdonald, Duncan M'Eachran, John T. M'Glasson, Victor J. G. Macgregor, Bell C. Mackay, James Mackay, Margaret S. Mackay, Mary E. M'Laren, Christina J. M'Leay, Alastair Macleod, Annie E. M'Leod, Isabella Macleod, John Macleod, Duncan Macmillan, Frank G. Macnair, Ian G. Macpherson, Sheila Macpherson, Malcolm D. Macqueen, Hugh M'Vicker, Elizabeth P. M'Whirter, †Donald Mainland, William Marshall, William R. Martine, David E. C. Mekie, Ivor B. L. Menzies, De la Rey van der Merwe, Arthur L. Millar, Margaret M'D. Miller, Alexander J. Milner, Charles E. Mitchell, Kenneth T. Moir, William A. Morrison, John Morton, Hendrik van Reenen Mostert, William T. F. Muir, David A. Murray, Stanley J. G. Nairn, Susman G. Narunsky, Beatrice M. Nicholson, Elizabeth H. Nimmo, George W. M. Paterson, Patrick W. R. Petrie, *Hilta Inès Christina Pfister, Charles H. Piper, Andrew M. Porteous, Steven T. Pottinger, John Prentice, Alexander A. M'K. Reekie, †Alexander H. Rintoul, Alison Ritchie, Charles W. Robertson, Edith A. Robertson, Dora F. M. Rose, Maurice Rosenberg, Andrew C. Ross, Isabella M. Ross, Jean A. Ross, Margaret Round, Alexander W. Sanderson, Robert H. Sanderson, Alfred E. M. Sandison, Sophie Sash, John B. de Cusance M. Sanders, Hyman F. Schiller, Gordon I. Scott, William F. Scott, Henry Selesnick, William V. Semple, Crissie Short, Alfred J. Skinn, William B. Smellie, Alistair H. Smith, Dorothy Smith, Robert W. Smith, Thomas H. Stephens, Robert Strang, George M. Sturrock, James S. Sutherland, Jean Sutherland, Vigrow W. Sutherland, Dorothy M. Taylor, Arthur Teasdale, Donald W. Thompson, John Thomson, Irene M. H. Tincker, Norman S. Turnbull, Alec B. Walker, Alexandra A. Warnock, Alfred O. Watkins, John M. Watt, Dorothy Watterson, Barclay P. Webster, Lucien B. Wevill, John White, Janet Wilson, and Ai Sung Wong.

* First-class honours. † Second-class honours.

The following awards have been made: Cameron Prize in Practical Therapeutics: Dr. R. Magnus, Professor of Pharmacology, University of Utrecht. Goodsir Memorial Fellowship: Adam D. Macdonald. Gunning Victoria Jubilee Prize in Physiology: William G. Millar. Gunning Victoria Jubilee Prize in Surgery: Harold K. Corkill. Chiene Medal and Prize in Surgery: Thomas B. Mouat. Ettles Scholarship and Leslie Gold Medal: William J. A. Coldstream. Allan Fellowship in Clinical Medicine and Clinical Surgery: John G. Kininmonth. Murchison Memorial Scholarship in Clinical Medicine: Sidney E. Croskery. M'Cosh Graduates and Medical Bursaries: Hilta Inès Christina Pfister. Mouat Scholarship in the Practice of Physic: William J. A. Coldstream. Buchanan Scholarship in Gynæcology: Robert W. Smith. James Scott Scholarship in Midwifery: John G. M'Crie. Lauder Brunton Prize in Pharmacology and Therapeutics: Andrew R. Gilchrist. Beaney Prize in Anatomy and Surgery: John G. Kininmonth. Conan Doyle Prize: Hyman Felix Schiller. Annandale Gold Medal in Clinical Surgery: William J. A. Coldstream. Scottish Association for Medical Education of Women Prize: Hilta Inès Christina Pfister. Dorothy Gilfillan Memorial Prize: Hilta Inès Christina Pfister. Sir Robert Jones Prize in Orthopædic Surgery: Alexander W. Sanderson. Pattison Prize in Clinical Surgery: John Thomson. Wellcome Medals and Prizes in the History of Medicine: Gold Medal, Alexander Haddow: Silver Medal, Bryan Williams. Cunningham Memorial Medal and Prize in Anatomy: George I. H. Braine. Whiteside Bruce Bursary: Thomas P. Bliss.

ROYAL COLLEGE OF SURGEONS OF EDINBURGH.—At a meeting of the College held on July 21st, Sir Harold J. Stiles, President, in the chair, the 28 successful candidates out of 58 entered, who passed the requisite examinations between March 30th and April 6th, were admitted Fellows:—

George J. Alexander, Leslie C. L. Averill, George H. Buckley, John A. G. Burton, Ernest Y. Comrie, Leopold R. de Castro, William A. Ekanayake, Doris C. Gordon, William P. P. Gordon, Reginald D. McK. Hall, Robert B. Hare, Charles F. W. Illingworth, Noel Kemm, Noel Kretzmar, Ramkrishin Harbhagwandas Lula, Claude H. Marshall, Finlay S. Mayne, Donald S. Middleton, Oswald O. Popper, Frank N. Reynolds, Edward H. Richards, Donald E. Ross, Cyril R. Sandiford, Robert Selby, John McD. S. Slater, Jacob W. van Reenen, Stewart A. Wallace, and William H. O. Woods.

The following candidates, having passed the Final Professional Dental Examination, have been granted the diploma of L.D.S. R.C.S. Edin.:—

Guthrie Russell, Douglas Sutherland, John Balfour, Albert G. Ueckermann, Esmee K. Wilson, Lewis W. G. Watson, Alastair G. Couston, John J. Seaton, William Mason, Margaret I. MacTaggart, and Mela Ram Soni.

SCHOOL FOR PRE-TUBERCULOUS CHILDREN.—At the annual meeting of the Liverpool Hospital for Consumption on July 22nd it was decided to provide and maintain an open-air school and hospital for pre-tuberculous children. This will be the first of its kind in the north of England.

HARROGATE ROYAL BATH HOSPITAL.—On Monday, August 10th, Princess Mary, Viscountess Lascelles, will open the new bacteriological and biochemical department at this hospital. The Earl of Harewood, G.C.V.O., will preside.

FINANCE OF THE GENERAL NURSING COUNCIL.—The income of the General Nursing Council for the year ending March 31st last was £27,505, and the expenditure £20,042. Examination fees produced the large sum of £12,301; the fees paid to examiners amounted to £4580. The Council has £20,000 invested and a further £5000 in the bank.

REGISTERED NURSES.—The new Register of Nurses contains 42,173 names, but recent additions have brought up the number to over 47,000. Some thousands of applications for registration received during the closing days of the period of grace have yet to be dealt with, and when they have been disposed of the total number of State-registered nurses will probably exceed 50,000. In future registration will be by examination.

CANCER RESEARCH IN YORKSHIRE.—It has been decided by the Yorkshire Council of the British Empire Cancer Campaign to appeal to the county for £75,000 for research work. Most of this work will have to be conducted at the Medical School of Leeds University, but Sir Berkeley Moynihan points out that the school has "no proper habitation" and that its equipment is inadequate.

MEDAL AWARDED TO BLOOD DONOR.—The Minister of Health on July 27th presented the Meritorious Service Medal of the Order of the British Empire to Mr. Bertie Wallace Tibble in recognition of his public-spirited work as a blood donor to the London Hospital. Mr. Tibble has given a pint of blood on more than 50 occasions, and although of small means has always refused the usual payment of 5 guineas for his service.

DUBLIN HOSPITALS.—In a speech at the Dublin Rotary Club, Sir W. de Courcy Wheeler declared that there are far too many hospitals in that city and that some of them are totally out of date. They lack lifts and patients have to be carried from the operating theatre along corridors and up staircases. Sir William Wheeler suggested that four or five of the hospitals might well be amalgamated, and laid especial stress upon the desirability of children being dealt with outside the city.

BAN ON UNVACCINATED SEAMEN BY U.S.A.—On July 14th a test case of importance to shipowners and seamen was heard at Liverpool City police-court, when a ship's fireman claimed for arrears of wages. It appears that when the ship arrived at Vancouver the crew were informed of a new American regulation that no ship could be allowed to enter the port unless the master could produce a certificate from the American consul in the last port of call saying that all the crew had been vaccinated during the last 12 months. Three firemen, including the plaintiff, stated that they had never been vaccinated and had conscientious objections to vaccination. They were left behind in Vancouver and the ship returned after a voyage to the United States and picked up the three again at Vancouver. After arguments by counsel, the magistrates decided that the men were merely put ashore, that the men had not signed off, and found for the sum claimed. The importance of the case lies in this new drastic protective regulation by the United States Government.

FIRST INTERNATIONAL MALARIA CONGRESS.—This Congress will be held at Rome under the patronage of the Italian Government on Oct. 4th, 5th, and 6th. Amongst others, the following subjects will be discussed: (1) Anopheles and malaria, (2) biology of the parasites (unicity and plurality of the parasites), (3) the alkaloids of quinine and the therapy of malaria, (4) epidemiological factors and antimalarial measures, (5) propaganda (statistics), (6) inoculation fever. All medical men will be admitted to the Congress, and the official languages will be English, French, German, Italian, and Spanish. All communications to the Congress should be sent to the secretary not later than Sept. 20th, and manuscripts or communications for distribution should arrive before Sept. 1st. Hotel accommodation will be provided by the Executive Committee of the Touring Agency, Ente Nazionale Industrie Turistiche, of Piazza Colonna, Rome, who will also supply any information useful to

travellers. Applications for accommodation should be received by the secretaries of the Congress at 14, Via XXIV. Maggio, before Sept. 20th. A fee of Lir.100 will be charged for each member of the Congress.

UNIVERSITY OF PARIS.—A vacation revision course will be held at the Hôtel-Dieu from Sept. 14th to 25th. The subject will be Recent Medical and Surgical Views on Diseases of the Digestive Tract, fully illustrated by demonstrations of all kinds. Following the course there will be a study tour to Vichy. Further particulars may be obtained from the Clinique Médicale de l'Hôtel-Dieu, Paris.

BIRTH CONTROL CLINIC.—The original clinic for constructive birth control, founded by Dr. Marie Stopes and Mr. H. V. Roe at Holloway, has removed to more central quarters at 108, Whitfield-street, Tottenham Court-road, W. 1. Nurse N. Jones, who gained the C.B.C. certificate after training at this clinic has been put in charge of the birth control clinic recently opened by the Abertillery and District Hospital.

GUY'S HOSPITAL: A YEAR'S WORK.—The report of Guy's Hospital for 1924, which has just been issued, shows that during the year 9495 patients passed through its 616 beds, as compared with 8765 in 1921, yet the average number of days' residence (21·25) remained practically constant. It is claimed that this is "the result of careful organisation in reducing to a minimum the number of vacant beds." Adding the number of patients in the hospital at the beginning of the year, the total number who received treatment in the wards was 10,017, the largest ever recorded in 12 months. The out-patients numbered 124,000, and in this department a whole-time clinic for the treatment of venereal diseases has been opened. Between 1923 and 1924 the number of attendances for massage increased from 26,791 to 31,106; for remedial exercises the growth was even more remarkable—namely, from 4443 to 14,013, With a total expenditure of £158,000, the deficiency on income and expenditure account was less than £2000, thanks to a large increase in legacies. At the end of the year there were 267 nurses in training.

DONATIONS AND BEQUESTS.—By the will of the late Sir Rickman Godlee, the testator left, on his wife's decease, among other bequests, £5000 to the Royal Medical Benevolent Fund; £5000 (to include the amount of his debentures in that Society) to the Royal Society of Medicine, to be applied as far as possible for the purposes of the library of the Society; £10,000 upon trust for investment, and to apply the income in travelling scholarships for students of University College Hospital Medical School who had held a house surgeoncy and one other resident appointment at University College Hospital, and are, in the opinion of the committee, likely to benefit from visiting medical schools and scientific institutions abroad or in this country. If, in the opinion of the committee, there should be a more suitable form of post-graduate study the scholarships may be applied for this purpose, in the discretion of the committee. He stipulated that in the event of the hospital being taken over or maintained by the State or municipality or other public authority this trust should continue as a permanent fund to benefit students in the way indicated and not be merged in some general "educational trust." He also left £1000 to the Whitchurch District Nursing Association, offered as an endowment.—The late Mr. William Henry Armitage, of Buxton, left £1500 to the Manchester Children's Hospital, Pendlebury, for a cot; £1500 to the Salford Royal Hospital for a cot; £1000 each to the Manchester Royal Infirmary, Ancoats Hospital, St. Mary's Hospital, Manchester, and the Manchester and Salford Blind Aid Society; £500 each to the Manchester Ear Hospital, the Manchester Royal Eye Hospital, and the Manchester and Salford Hospital for Skin Diseases; £300 each to the Manchester and Salford Sick Poor and Private Nursing Institution, the Manchester City League of Help, and the Salford Civic League of Help; £200 to the Society for the Prevention of Cruelty to Children; £200 to the Boys' and Girls' Refuges, Strangeways; £100 to the Salford Lads' Club; and £100 to the Cinderella Club, Withy Grove.—As a result of the wireless concert organised by the Daily Graphic and Allied Newspapers, Ltd., £3853 will go to funds of the Infants Hospital, Westminster.—Alderman E. Dickinson, J.P., Wigan, left £250 to the Royal Albert Edward Infirmary, Wigan, to be invested for the annual provision of Christmas gifts for the children's in-patient department, and £1000 for the endowment of a bed.—During the year for the Hospital Sunday and Saturday Fund, Carlisle, £3200 was collected and distributed as follows: Cumberland Infirmary £2333, Carlisle Dispensary £242, Silloth Institute £185, Carlisle Fever Hospital £50, Carlisle Nursing Association £60.—Legacies of £1347 from the executors of the late Mr. Joseph Bell and £450 from the late Mr. Joseph Milnthorpe have been received by the Manchester Royal Infirmary.

Parliamentary Intelligence.

HOUSE OF LORDS.

THURSDAY, JULY 23RD.

The Public Health Bill.

THE House went into Committee on the Public Health Bill (a measure which consolidates a number of provisions contained in private Acts and makes them applicable to the country generally). The EARL of DONOUGHMORE was in the chair.

Lord BANBURY of SOUTHAM moved to leave out Clause 62, which provides for the removal to hospital of infectious persons suffering from pulmonary tuberculosis at the instance of the county council or the local authority in cases where the lodging or accommodation occupied by the patient is such that proper precautions to prevent the spread of infection cannot be taken or are not being taken. He said that the clause seemed to be likely to give rise to very considerable expense, to interfere with the existing hospitals, and to be of the nature of "grandmotherly" legislation. Apparently everybody who was in ill-health was now to be provided for by the State or by the ratepayers.

Lord EMMOTT (who was in charge of the Bill) said that he thought the clause was a very valuable one. It was not for the purpose of spending money, but for the purpose of taking steps where necessary to protect the public from infection. Pulmonary consumption was a highly infectious disease, and if the local authorities had not power to deal with it, it was possible for it to spread very considerably. There were great safeguards in the clause. First, its application was limited to patients whose surroundings prevented the adoption of proper precautions, and in any event it must be shown that serious risk of infection arose. In the second place there was a requirement that the receiving institution should have consented to the reception of the patient, and that suitable accommodation existed. In the third place there was a requirement that the cost of removal to, and maintenance in, the hospital should be borne by the county council or local authority. At any rate, that removed injustice from the individual. In the fourth place the period of detention was limited, and in the fifth case an application could be made on behalf of the patient to the court for the rescission of the order at any time after six weeks from the date of the order.

The amendment was negatived.

On Clause 63, which deals with the extended use of ambulances, and allows people leaving hospital, not having suffered from any infectious disease, to be put into vehicles which have previously carried cases of infectious disease, provided that suitable precautions are taken to prevent the communication to any person of infectious disease,

Lord DYNEVOR moved an amendment providing that on each occasion a certificate should be signed by a registered medical practitioner, so that it might be quite certain that proper precautions were taken against the spread of disease.

Lord EMMOTT, in resisting the amendment, said that it would cause great delay and considerable expense and he did not think that it would add at all to the safety of the public and of the patients.

Lord DYNEVOR said that if the noble lord was quite certain that no infection would be spread he would not press the amendment.

The amendment was withdrawn.

On Clause 64, which gives a local authority power to make reasonable subscriptions or donations to a voluntary hospital or institution, if it is satisfied that by so doing it will maintain, or extend, or increase the efficiency of hospital accommodation for the sick inhabitants of the district,

Lord BANBURY moved to delete the clause on the ground that it opened up a great vista of expense to the ratepayers. It would militate, he said, against the public subscribing to the voluntary hospitals. It was an attempt to provide State hospitals, which he thought was wrong.

Lord EMMOTT said he thought that it was possible that the clause would be a saving rather than a spending one. There were many cases in which hospitals found it extraordinarily difficult to live, and just a little bit of help from the local authority might enable them to keep going. It would not cause the hospitals to become public institutions more than they were to-day.

The EARL of MALMESBURY thought that it was the thin end of the wedge against the voluntary system if they introduced grants from public authorities.

The LORD CHANCELLOR (Viscount CAVE) said that no one would be more unwilling than he that the hospitals should cease to be voluntary, and come upon the rates. But for all that he was strongly in favour of this clause. He did not think that it would in the least endanger the voluntary character of those institutions. The local authorities who employed large numbers of workmen owed a great debt to local hospitals.

Lord STUART of WORTLEY said he knew a town in which a contribution of a penny in the pound on wages by employers, as well as by the employees, had produced a sum which had placed the hospitals out of the reach of serious financial necessity. Could anyone say that in that case the local authority as a large employer of labour should not contribute its small quota to that desirable result? It was possible that the clause might be amended so as to limit it to contributions in respect of a municipality's own employees.

Lord EMMOTT said that there had always been some doubt in carrying out Section 131 of the Public Health Act, 1875, as to whether it did not contemplate that special accommodation should be provided at the hospital for the subscription paid, and whether subscriptions by the local authority in response to appeals from the hospital were authorised. It was to remove that doubt that the clause had been inserted in the Bill. There were already many such provisions in local Acts.

Lord BANBURY said he had no objection to the amendment proposed by Lord STUART of WORTLEY. If the noble lord would draft an amendment on the lines suggested and consult him afterwards he would withdraw his own amendment now with a view to another amendment being moved on the report stage.

The amendment was withdrawn.

The Committee stage of the Bill was concluded and the Bill was reported to the House.

Summer-Time Bill.

On the motion of Lord DESBOROUGH the Summer-Time Bill, which has already passed through the House of Commons, was read a second time.

TUESDAY, JULY 28TH.

Dangerous Drugs Bill.

Viscount CECIL of CHELWOOD (Chancellor of the Duchy of Lancaster), in moving the second reading of the Dangerous Drugs Bill, which amends the Dangerous Drugs Acts of 1920 and 1923, so far as is necessary to enable effect to be given to the Opium Convention, signed at Geneva on Feb. 19th last, said that the measure was not a contentious one, and was necessary because the Convention could not be ratified without some slight changes in our law. It was very important that the Bill should be passed before Parliament adjourned in August, because the Government were very anxious to ratify the Convention at the earliest possible moment. The first clause of the Bill extended the Dangerous Drugs Acts of 1920 to coca leaves and Indian hemp. The second clause made a small change in the machinery of The Hague Convention, under which these things had hitherto been governed. The third clause brought up to date, in accordance with scientific opinion, the definition of certain alkaloids, such as morphine, heroin, ecgonine, and things of that kind, which had been more carefully defined by the assistance of the experts at Geneva. Clause 5 gave power to strike out from the list of dangerous drugs those drugs which, by experience, had been found not to be capable of being used by addicts, and were therefore no longer to be classed as dangerous.

The Convention represented a very valuable advance in the struggle to bring under control the use of these drugs, and primarily the drugs and substances referred to in the Convention. There were three broad divisions of the subject dealt with by the Convention. There was raw opium, which was used for eating in India, which really was not an international question at all. It was concerned only with what the Indian Government allowed its Indian subjects to do with the opium grown in India. Then there was opium smoking which, apart from a few relatively unimportant exceptions, was a purely Chinese question. Practically it was only the Chinese who indulged to any extent in opium smoking. The large growth of opium in China and the unhappy condition of that country at the present time rendered it impossible to control in any way the illegitimate export of the drug.

By far the most important subject dealt with by this Convention was the question of the use of these very formidable drugs—heroin, morphine, cocaine, and the like. It was a very serious evil even for this country, and still more serious for other countries, in some of which those who trafficked in these drugs had even pushed their pernicious wares in the schools, thus leading children into vice. The evil was rendered all the more formidable by the fact that behind the traffic there were apparently syndicates with very considerable financial resources. He was glad to be able to assure their lordships that owing to the efforts of the Home Office the evil was not a growing one in this country, but was to a very large extent under control here. There was no doubt that international control of the traffic in these drugs would make it very much less easy for people dealing in them to find means of pushing their pernicious wares. The main purpose of the greater part of the provisions of these conventions was to institute international supervision and control of the traffic in these drugs. It was not so hopeless or so difficult a matter as one might assume at first sight, because the drugs were only manufactured in a very small number of factories—he thought there were not more than ten—and if proper national control could be obtained over these factories and international control over the traffic from them they might hope to assist in diminishing the trade. He would like to pay a tribute to the great services of the gentleman who preceded him as the representative of this country in these conferences and who had done more, perhaps, than any living man to carry forward the struggle against the illegitimate use of drugs. He referred to that exceedingly able member of the staff of the Home Office, Sir Malcolm Deleveigne.

Viscount HALDANE supported the Bill.

The Bill was read a second time.

Therapeutic Substances Bill.

The Commons' amendments to the Therapeutic Substances Bill were considered, and on the motion of Viscount GAGE all the amendments were agreed to, except in respect of a slight modification to that which provided that a regulation should be modified or annulled following the voting of an address by either House of Parliament.

HOUSE OF COMMONS.

WEDNESDAY, JULY 22ND.

Death-rates among Commercial Clerks.

Lord HENRY CAVENDISH-BENTINCK asked the Minister of Health whether, in view of the heavy death- and tuberculosis-rate among commercial clerks, owing to the insanitary, overcrowded, and badly lighted condition of the offices in which they worked, he would introduce legislation to give local authorities further powers to secure the better regulation of such offices.—Sir KINGSLEY WOOD replied: Other circumstances besides the condition of offices go to account for the present death- and tuberculosis-rates among commercial clerks. Local authorities already have certain powers to deal with conditions in offices, and my right hon. friend cannot at the present time promise further legislation.

Protection of Civilians against Poison Gas.

Mr. CECIL WILSON asked the Secretary of State for War whether he was aware that in many countries scientific investigation was taking place regarding the most deadly forms of poison gas and other inventions designed to exterminate human life; whether any steps were now being taken in this country, or when would they be taken, in instructing the civil population as to any means whereby they might protect themselves; and whether he could indicate to the House what such steps were.—Sir L. WORTHINGTON-EVANS replied: The answer to the first part of the question is in the affirmative. As regards the remainder of the question, the measures to be taken for the protection of the civil population against poison gas are now being considered by the Committee on Imperial Defence.

THURSDAY, JULY 23RD.

School Medical Services.

The House went into Committee of Supply on a vote of £25,652,754 for the salaries and expenses of the Board of Education, Mr. J. HOPE in the chair.

Mr. FISHER said when he was President of the Board of Education nothing was more encouraging than the reports received from his inspectors as to the health and general well-being of the children in the elementary schools. He would like to know whether the reports which the Board now received were equally satisfactory in this respect. Although it was true that, very largely owing to the skill, energy, and devotion of the school medical services, the health of our school population had been greatly improved, nevertheless it was true that there were still great defects to be remedied. He noticed, for instance, that in the last report of the Board of Education it was stated that there were 200,000 children mentally or physically defective

who had not yet received places in special schools. Owing to the great expense of such schools he quite believed that it would be sanguine to expect this deficiency to be made up immediately, but he noted with pleasure that the President of the Board was pressing the local education authorities to do their best to make up the deficiency, and he trusted that he might receive some support from the private benefactor.

Dr. HADEN GUEST said it seemed to him that they ought, in view of the very satisfactory nature of the results which had flowed from medical inspection, to increase the amount of health work and health care of children and not diminish it. That should apply to all the schools in the country, irrespective of whether they were public schools or others. He believed that the extension of medical health work to all schools would have exceedingly valuable results. He also wished to refer to the fact that some 10 per cent. of the children attending elementary schools were never adequately fed. He should like to see the Board of Education insist on the standard of physical well-being and feeding of children being raised very considerably higher than it was at the present time. It should be the business of the medical officer and the school inspector to draw up a list of children who would benefit by increased nourishment, and it ought to be part of the school curriculum to provide school meals which could be either paid for or given free to the children who required them. That was a method of practical Communism which would commend itself to both sides of the House.

The DUCHESS of ATHOLL (Parliamentary Secretary to the Board of Education), replying to Mr. FISHER, said the last report of the chief medical officer of the Board gave some very comforting figures. In 1923 36·7 per cent. of the children in the schools inspected had defects of one kind or another compared with 44 per cent. in 1894. That was certainly progress. In the same year there were 5·9 per cent. who had been diagnosed as under-nourished as compared with 12·8 per cent. in 1913. It was found that children suffering from defective hearing were only half what they were ten years ago. The work was carried on unobtrusively and was not spectacular, but day in and day out it was going on steadily.

The vote was agreed to.

Lead Poisoning and the Pottery Industry.

Mr. CLOWES asked the Home Secretary the number of fatal cases of lead poisoning in the pottery industry last year; what were the ages of the persons who died and the nature of the process worked; and what was the length of time each of the deceased had been employed on lead processes.—Sir W. JOYNSON-HICKS replied: The following are particulars of deaths from lead poisoning in the pottery industry for the year 1924:—

Case No.	Sex.	Age.	Occupation.	Duration of employment in lead processes.
1	M.	46	Glost placer.	16 years.
2	M.	65	,,	Believed many years.*
3	M.	51	,,	29 years.
4	M.	51	,,	36 ,,
5	M.	55	Dipper.	38 ,,
6	M.	50	Oddman.	Many years.
7	M.	59	Glost placer.	47 years.
8	M.	63	,,	At least 18 years.
9	M.	44	,,	Many years.
10	M.	54	,,	33 years.
11	M.	53	Dipper.	25–30 years.
12	M.	46	,,	20 years.
13	M.	51	,,	42 ,,
14	M.	54	Glost placer.	36 ,,
15	M.	48	Dipper.	32 ,,
16	F.	50	Ware cleaner.	20 ,,
17	F.	57	,,	30 ,,
18	F.	35	Majolica paintress.	14 ,,

* But has not worked since 1912 on account of lead poisoning.

Committee on Child Assault.

Lady ASTOR asked the Home Secretary whether the Committee on Child Assault had finished taking evidence; and when it was anticipated that their report would be issued.—Sir W. JOYNSON-HICKS replied: The Committee are now considering their report, and I hope it may be issued soon after the summer holidays.

Insurance Contributions in Rural Areas.

Lieut.-Colonel HENEAGE asked the Minister of Health whether, seeing that the benefits authorised under the Health Insurance Act were greater in those societies composed mostly of rural workers as compared with those in purely urban districts, and that the former societies had created greater surpluses per person insured, he would consider authorising a reduced contribution under the National Health Insurance Act from those living in rural areas.—Mr. NEVILLE CHAMBERLAIN replied: Pending the report of the Royal Commission now in session I could not properly make such a change in the National Health Insurance system as is suggested. I may add that approved societies can repay as an additional benefit out of accrued surplus the whole or part of the contributions of their members, and accordingly societies composed mainly of rural workers and having a favourable sickness experience can now provide the normal benefits at an annual cost to members less than the product of the normal contribution.

Houses Unfit for Habitation.

Mr. TREVELYAN THOMSON asked the Minister of Health the number of houses which he estimated were not reasonably fit for human habitation in both urban and rural areas.—Mr. NEVILLE CHAMBERLAIN replied: Statistics on the point raised by the hon. Member are not available. According to the latest annual reports of medical officers of health there were 291,700 houses in urban districts and 30,954 in rural districts found on inspection not to be in all respects reasonably fit for one reason or another. During the same year defects were remedied in 12,987 houses in urban districts and 49,530 in rural districts.

Disease-carrying Mosquitoes.

Mr. FOOT MITCHELL asked the Minister of Health whether the available statistics showed any diffusion of disease-carrying by mosquitoes in this country; and whether any advice had been given to local authorities as to the desirability of eliminating likely breeding-places.—Mr. NEVILLE CHAMBERLAIN replied: I am advised that, apart from occasional casualties arising from the inflammation of mosquito bites, mosquitoes in this country are not known to carry disease other than malaria. The known cases of indigenous malaria arising in this way are very few, only four such cases have been reported during 1924.

Preservatives in Food.

Mr. SUTTON asked the Minister of Health whether independent scientific investigations had been made by his department as to the physiological effect of the use of preservatives in food; whether any and what offers had been made by manufacturers or others to combine with the department in pursuing such investigations; and whether he would arrange for inquiry to be pursued by means of independent investigation before proposing final regulations dealing with the subject.—Mr. NEVILLE CHAMBERLAIN replied: The physiological effect of the use of preservatives in food was one of the matters considered by the recent Departmental Committee on Preservatives and Colouring Matters in Food, which included a number of distinguished physiologists in no way connected with the Government or the trades concerned. I have had an offer from one large firm interested in the production of boron compounds to coöperate in a further inquiry into the effect of the consumption of small quantities of such compounds in food, but having regard to the full consideration which was given to this matter by the Committee I do not think it necessary to institute any further inquiry.

Value of Tuberculin Tests.

Mr. HURD asked the Minister of Agriculture if he was aware of the uncertainty that existed as to the value of the different tuberculin tests and the consequent discouragement of the increased production of graded milk; and whether he would issue a circular indicating what, in the opinion of the Ministry, was the best method of clearing a herd of tuberculosis and generally advising farmers in this matter.—Mr. WOOD replied: The Ministry has under consideration the investigation recently conducted under the auspices of the Medical Research Committee on the trustworthiness of various tests with tuberculin. My hon. friend will also realise that very varying conditions prevail among the herds of this country, and I am therefore doubtful whether at the present time a circular of the kind suggested would fulfil the purpose he has in view. The Ministry is always prepared to advise in cases of special difficulty.

FRIDAY, JULY 24TH.

Therapeutic Substances Bill.

The House went into Committee on the Therapeutic Substances Bill, Mr. J. F. HOPE in the chair.

On Clause 3, which deals with the restrictions on the importation of therapeutic substances,

Sir KINGSLEY WOOD (Parliamentary Secretary to the Ministry of Health) moved an amendment making it lawful to import any serum of foreign origin for which no standard

existed, provided that the substance complied with the general regulations governing the quality and general purity of substances of the same class. He explained that as originally drafted the clause might have prohibited the importation of such a substance as the Spahlinger serum.

Dr. SHIELS moved an amendment to the amendment designed to allow a substance such as the Spahlinger serum to be consigned for test purposes to any medical practitioner in the country.

Sir K. WOOD said that the Government could not assent to the importation of sera without examination.

The amendment to the amendment was withdrawn and Sir K. Wood's amendment was agreed to.

On Clause 4 (which deals with joint advisory committees) an amendment was agreed to adding a member to be appointed by the British Medical Association to the advisory committee which is to assist the joint committee in framing regulations under the Bill.

On Clause 5 (which deals with the power to make regulations) Sir K. WOOD accepted an amendment moved by Captain W. BENN giving Parliament the power to move an address praying for the modification or annulment of regulations which had been laid before Parliament.

The amendment was agreed to.

The Committee stage was concluded and the Bill as amended was reported to the House.

Diseases of Animals Bill.

The House went into Committee on the Diseases of Animals Bill.

Mr. A. V. ALEXANDER moved an amendment to Clause 1 (which provides for the repayment by the Minister to local authorities of three-quarters of the amount of compensation paid by them for cattle slaughtered on account of the existence or suspected existence of tuberculosis). The amendment proposed to make this repayment dependent on the Minister being satisfied that no carcass, or portion of a carcass, had been, or would be, used for human consumption.

Mr. E. WOOD (Minister of Agriculture) said that the total condemnation of a carcass on evidence of local tuberculosis was unnecessary and wasteful. While he could not accept the amendment he would amend the Tuberculosis Order to provide that a veterinary inspector should send notice in writing to the medical officer of his intention to slaughter an animal under the Order, and that he should not remove a carcass or offal until he had received a notification from the medical officer stating whether any part of it might be disposed of for human consumption.

Dr. SHIELS thought there should be no room for suspicion in this matter, and the procedure should be along the line of "safety first."

Sir R. LUCE said that tuberculosis was localised in a large proportion of cases and there was a very large consensus of opinion in the medical profession that there was practically no danger in the use of a large portion of the carcasses of animals affected only by a local form of the disease. The amendment would lead to wasteful action.

Dr. DAVIES said that the consensus of medical opinion was definitely against the mover of the amendment. The danger anticipated from anything circulating in the blood of these animals was very much exaggerated, and it might be absolutely ignored. There was no danger of tuberculosis being carried by the blood-stream except in the case of a cow with acute general tuberculosis, and such animals were always destroyed.

Mr. ALEXANDER said he would withdraw the amendment on the understanding that if he was dissatisfied with the actual terms of the proposed alteration in the Tuberculosis Order he could raise the point again on the third reading of the Bill.

The amendment was withdrawn. The Committee stage was concluded and the Bill was reported to the House.

MONDAY, JULY 27TH.

Spahlinger Treatment.

Mr. MACANDREW asked the Minister of Health if he was aware that the sanatorium committee for Ayrshire was unanimously of opinion that the Government should contribute towards experiments with Mr. Spahlinger's treatment of tuberculosis; and what steps he proposed to take to assist in the encouragement of experiments with this treatment.—Mr. NEVILLE CHAMBERLAIN replied: The answer to the first part of the question is in the negative. As regards the second part, I would refer my hon. friend to the answer which I gave on the 9th inst. to the hon. Member for Bedwelty on the subject of the Spahlinger treatment.

Withholding of Addresses of Mental Patients.

Sir DAVISON DALZIEL asked the Home Secretary whether his attention had been called to the dissimilarity of decisions regarding the alleged criminality of withholding addresses of patients escaped from mental institutions; whether he would investigate the circumstances under which a Mrs. Gibbons, of Trinity-square, Brixton, was sentenced at the Lambeth police-court to two months' imprisonment for this offence and hurriedly released from Holloway ten days later; and whether he could give the decisions in police-court proceedings of this nature in 1923, 1924, and the first six months of 1925.—Sir W. JOYNSON-HICKS replied: In Mrs. Gibbons's case I felt justified by the facts that came to my knowledge in recommending a remission of the balance of the sentence. No other case of the kind has been brought to my notice, and the Home Office have no information of other cases of the kind that may have been dealt with by courts of summary jurisdiction.

Scientific Research.

Captain MACMILLAN asked the Secretary to the Treasury whether, in arriving at the total of £4,045,000 provided in the estimates, 1925–26, for scientific research, distinction was made between research, development, and experiment; whether he would give a detailed statement showing the different items of the total mentioned; and the sum spent on scientific research carried on purely for the advancement of natural knowledge and made known through the usual scientific publications.—Mr. W. GUINNESS replied: The answer to the first part of the question is in the negative. The items collected from the several departments from which the total of £4,045,000 is made up are as follows:—

Admiralty, £983,000; War Office, £495,000; Air Ministry, £1,373,500; Ministry of Agriculture and Fisheries, £348,756; Board of Agriculture, Scotland, £51,585; Fishery Board of Scotland, £16,910; Forestry Commission, £7057; Mines Department, £1850; Department of Scientific and Industrial Research, £380,263; Scientific Investigation, £158,687; Ministry of Health, £4350; Scottish Board of Health, £100; Post Office, £52,000; Colonial Office, £15,000; Office of Works, £157,180.

These figures do not include expenditure in respect of salaries, &c., of administrative staff, except in the case of the Department of Scientific and Industrial Research.

In the case of the service departments (and to some extent of other departments also) it is impracticable to distinguish between expenditure on pure scientific research and that on technical research and experiment. The figures given include as far as possible provision of all such expenditure.

The normal work of the Government chemist entails a considerable though varying amount of research to which no definite proportion of the annual expenditure can be assigned, and nothing has been included in respect thereof in the above figures.

It is impossible to give the information asked for in the last part of the question, for the methods of pure and applied research are the same, the distinction between them being solely one of aim. All the research done by Government, the cost of which it is almost impossible to separate from that of experiment and development, is in its nature the same as that carried on purely for the advancement of natural knowledge.

Inquiry into Mental Deficiency.

Mr. HURD asked the Minister of Health what official expert investigation into the effect of mental deficiency upon the national life was now in progress; who were the investigators; and when their report might be expected.—Sir KINGSLEY WOOD replied: The Board of Control in conjunction with the Board of Education are about to undertake an inquiry into the incidence of mental deficiency; an inspector of the Board of Control has been detailed to carry out the investigation; it is estimated that the inquiry will take at least a year to complete; and it is not anticipated that any report will be available before that time.

Poison Gas in Warfare.

Colonel ENGLAND asked the Secretary of State for Foreign Affairs whether the League of Nations was considering the organisation of international action with a view to the prohibition of the use of poison gas in warfare; and, if so, what was exactly the position of such action.—Mr. A. CHAMBERLAIN replied: At the Arms Traffic Conference held at Geneva in May last, under the auspices of the League of Nations, a protocol was drawn up prohibiting the use of chemical or bacteriological methods of warfare. Twenty-five States have signed the protocol, which remains open for accession by other powers. It comes into force immediately on ratification as between those States which have ratified.

Colonial Medical Services.

The House went into Committee of Supply on a vote of £117,483 for the salaries and expenses of H.M. Secretary of State for the Colonies and H.M. Secretary of State for Dominion Affairs, Captain FITZROY in the chair.

Mr. ORMSBY-GORE (Under-Secretary for the Colonies), referring to medical research, said that nothing was more important, because it was the doctor as much as the engineer who made Panama. Further work in combating tropical diseases was most urgent. It was a fallacy to suppose that only the white man found it difficult to live in the tropics; the black man found it equally difficult. In East Africa the birth-rate was very high, but the infant mortality was appalling. So far as he could get the figures he believed that anything from 400 to 500 per 1000 of the children born in many of the native areas died within the first year. He hoped shortly to visit West Africa and to issue a report on the progress there.

The vote was agreed to.

Pharmacy in the Army.

Mr. SCRYMGEOUR asked the Secretary of State for War whether he was now prepared to publish the report presented in 1922 by the Joint Committee on the subject of pharmacy in the army; and whether the Army Council were now willing to accept the modified requirements of the Pharmaceutical Society as presented by a deputation thereof to the Director-General, Army Medical Services, at the War Office in May, 1923.—Sir L. WORTHINGTON-EVANS replied: The report of the Committee referred to was published by the Stationery Office last year in response to the wishes expressed by Members of this House. As regards the second part of the question, the Army Council are satisfied that the requirements of the army in regard to pharmacy and dispensing are adequately met under present arrangements, and they would not be justified in incurring the expense of carrying out the changes advocated by the Pharmaceutical Society.

Mr. SCRYMGEOUR asked whether, seeing that there was agreement between the Army Medical Service Department and those who represented the pharmacy interests, it was not recognised by the Department that there should be an improvement on the lines of the modified recommendations.—Sir L. WORTHINGTON-EVANS replied that he thought the Service, as now administered, was an improvement on the past, and was adequate.—Mr. MAXTON asked if it was not proper to take the same care to safeguard the interests of soldiers as of the civilian population.—Sir L. WORTHINGTON-EVANS: Oh, at least as great.

TUESDAY, JULY 28TH.

Miners' Nystagmus.

The House went into Committee of Supply on a vote of £113,045 for the salaries and expenses of the Department of Mines.

Colonel LANE-FOX (the Parliamentary Secretary for Mines), replying after the debate, said nystagmus was a most difficult disease to deal with. A short time ago a very interesting report was issued by a committee of the Health Advisory Council, which pointed out that in this country we were more humane than in foreign countries, where they said that nystagmus was largely a nervous disease and that it was a mistake to encourage too many people to think they were suffering from it. The subject was now receiving very considerable attention, and constant research work was going on. A scheme was being elaborated between the Home Office and the Mines Department for dealing with the disease, and he hoped it would shortly be put into operation.

Pay and Allowances of the R.A.M.C.

Colonel DAY asked the Secretary of State for War if he was aware that the recent conference of the British Medical Association had unanimously decided not to print in their official publication any reference to the terms and conditions of service in the Royal Army Medical Corps, in view of what they alleged to be a breach of faith by the Government; and if he would, in view of attracting the best type of medical practitioner into the service, cause a revision to be made in the pay and pension allowances to officers of the Royal Army Medical Corps.—Sir L. WORTHINGTON-EVANS replied: I have seen in the press that the British Medical Association are stated to have adopted the resolution referred to. I recently conferred with the British Medical Association on the subject of the Royal Army Medical Corps, and I hope in the near future to be able to announce decisions on the matters which were then discussed.

Ex-Service Patients Sent to Switzerland.

Colonel ENGLAND asked the Minister of Pensions whether any tuberculous ex-Service men had been sent for their health to Switzerland to undergo the Spahlinger treatment or otherwise; and, if so, what were the regulations with respect to the selection of such cases.—Lieut.-Colonel STANLEY (Parliamentary Secretary to the Ministry of Pensions) replied: A few cases of pulmonary tuberculosis have been sent to sanatoria in Switzerland by the Ministry. The cases selected are those in which the department is satisfied, on the advice of their experts in tuberculosis, that treatment abroad is essential and that equally good results cannot be expected from the facilities available in this country. I am informed that the Spahlinger treatment referred to has, in fact, been given in certain cases as an incident of their sanatorium treatment, but the resulting evidence as to the value of the treatment has not, in the opinion of my medical advisers, justified the sending of patients at the public expense expressly for this form of treatment.

State-aided Housing Schemes.

Captain FRASER asked the Minister of Health how many houses had been built under State-aided schemes during the years 1919, 1920, 1921, 1922, 1923, and 1924, respectively, and in 1925 up to the present date; how many were now in course of construction; how many had been authorised; how many houses had been authorised under the Housing Act of 1923; and how many under the Housing (Financial Provisions) Act of 1924.—Sir KINGSLEY WOOD replied: The numbers of houses completed each year since 1919 in connexion with State-assisted schemes under the Housing Acts were as follows: 1919, 100; 1920, 15,711; 1921, 86,669; 1922, 89,001; 1923, 19,185; 1924, 52,730; and 1925 (up to June 30th), 44,203; total 307,689. Statistics obtained during the last 2½ years show that in addition to this number 160,566 houses had been built by private enterprise without Government assistance in the period between Sept. 30th, 1922, and March 31st, 1925. The total number of houses authorised under the various Acts is 499,464, and on the 1st inst. 63,495 were under construction. Under the Acts of 1923 and 1924 the number of houses authorised to be built are 218,769 and 66,969, respectively.

Closing of Wandsworth Maternity Home.

Mr. VIANT asked the Minister of Health if he was aware that the maternity home of the Wandsworth borough council had been closed; that during the past 17 months there had been 87 cases of mothers suffering from abscesses of the breasts; that complaints had been made by patients and public bodies as to the lack of cleanliness and proper treatment; and that the services of all the staff had been dispensed with except the matron, who was retained and receiving wages as usual; and, in view of these facts, would he institute an inquiry.—Sir KINGSLEY WOOD replied: The answer to the first part of the question is in the affirmative, and to the third part in the negative. My right hon. friend has, for some months, been aware of the special incidence referred to in the question, but repeated skilled inquiry has, up to the present, failed to elicit the cause of this unusual condition. He is informed that the borough council who have made every effort to grapple with the problem have now decided to close the home temporarily and to give notice to the staff. My right hon. friend is suggesting to the council that a conference should be held locally, at which his department would be represented, in order to discuss future arrangements.

Medical Diary.

Information to be included in this column should reach us in proper form on Tuesday, and cannot appear if it reaches us later than the first post on Wednesday morning.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

FELLOWSHIP OF MEDICINE AND POST-GRADUATE MEDICAL ASSOCIATION, 1, Wimpole-street, W.

TUESDAY, August 4th, to SATURDAY, August 8th.—PRINCE OF WALES'S GENERAL HOSPITAL (N.E. London Post-Graduate Hospital), Tottenham, N. Intensive Course in General Medicine, Surgery, and the Special Departments. Work will begin at 10.30 A.M., and continue until 5.30 P.M., except Saturday, when there will be morning work only (first week).—WEST END HOSPITAL FOR NERVOUS DISEASES, 73, Welbeck-street, W. Lecture-demonstrations, illustrated by cases daily at 5 P.M. Tuesday, Dr. L. R. Yealland on Disorders of Coördination. Wednesday, Dr. E. W. Scripture on Speech Disorders in Nervous Disease. Thursday, Dr. E. D. Macnamara on Disorders of Posture and Gait. Friday, Mr. L. G. Brown on The Auditory and Vestibular Apparatus in Nervous Disease.

WEST LONDON POST-GRADUATE COLLEGE, West London Hospital, Hammersmith, W.

MONDAY, August 3rd.—11 A.M., Surgical Registrar: Surgical Wards. 12 noon, Mr. Simmonds: Applied Anatomy. 3 P.M., Dr. Saunders: Medical Wards.

TUESDAY.—12 noon, Dr. Burrell: Chest Cases. 2.30 P.M., Mr. Tyrrell Gray: Surgical Wards. 3 P.M., Mr. Banks-Davis: Throat, Nose, and Ear Dept.

WEDNESDAY.—11 A.M., Medical Registrar: Medical Wards. 2 P.M., Dr. Owen: Medical Out-patients. 2.30 P.M., Mr. Donald Armour: Surgical Wards.

THURSDAY.—10 A.M., Dr. Grainger Stewart: Neurological Dept. 11 A.M., Sir Henry Simson: Gynæcological Wards. 2 P.M., Mr. Bishop Harman: Eye Dept.

FRIDAY.—10.30 A.M., Dr. Dowling: Skin Dept. 12 noon, Dr. Pritchard: Modern Methods in Medicine. 2 P.M., Mr. Vlasto: Throat, Nose, and Ear Dept.

SATURDAY.—10 A.M., Dr. Saunders: Medical Diseases of Children. 10 A.M., Mr. Banks-Davis: Operations of the Throat, Nose, and Ear.

Daily, 10 A.M. to 6 P.M., Saturdays, 10 A.M. to 1 P.M., In-patients, Out-patients, Operations, Special Departments.

Appointments.

BRERETON-BARRY, JAMES, L.A.H. Dub., has been appointed Public Vaccinator for Weymouth and Melcombe Regis.

REID, H., F.R.C.S. Eng., M.B., Ch.B. Liverp., Honorary Assistant Surgeon to the Royal Infirmary, Liverpool.

Ancoats Hospital, Manchester: TWINING, E. W., M.R.C.S., L.R.C.P. Lond., Honorary Radiologist: WELLS, C. ALEXANDER, M.B., Ch.B. Liverp., Resident Surgical Officer; ROBERTSON, MAURICE C. G., M.B., Ch.B. Aberd., House Surgeon; WOOD, KENNETH W., M.B., Ch.B. Manch., Assistant House Physician.

Certifying Surgeons under the Factory and Workshop Acts: KILLARD-LEAVEY, M. E. P., L.R.C.P. Lond., M.R.C.S. (Barnstaple); SOUTHERN, W. G., M.B., Ch.B. Manch. (Broughton-in-Furness); MOLLOY, H. H., M.D. Dub. (Helsby, Chester); MCDONALD, J. R., M.B., Ch.B. Edin. (Durham).

Vacancies.

For further information refer to the advertisement columns.

Barbados General Hospital.—Sen. Res. Surg. £330. Jun. Res. Surg. £300.

Barnsley and Wakefield Joint Sanatorium.—Asst. Tub. O., &c. £450.

Birmingham, Highbury Group of Hospitals.—Jun. M.O. £350.

Bristol, Cossham Memorial Hospital, Kingswood.—Res. M.O. £150.

Cairo, School of Dental Surgery.—Supt. and Lecturer in Metallurgy, &c. £E.900. Lecturer in Surg. £E.480. Asst. Lecturer in Surgery. £E.360. Lecturer in Mechanics. £E.480.

Chichester, Royal West Sussex Hospital.—H.S. at rate of £200.

Jersey General Hospital and Poor-law Infirmary.—Res. M.O. £200.

Hull Royal Infirmary.—Cas. H.S. at rate of £130.

Leeds Public Dispensary—Jun. Res. M.O. £150.

London School of Hygiene and Tropical Medicine.—Research Studentships in Tropical Med. £250.

Manchester, Ancoats Hospital.—Pathological Registrar. £100.

Mount Vernon Hospital, Northwood, Middlesex.—Surg. Laryngologist.

Pietermaritzburg, Grey's Hospital.—Male H.S. £500.

Royal Chest Hospital, City-road, E.C.—Asst. Tub. O. £550.

Royal Free Hospital, Gray's Inn-road, W.C.—Cas. O. £150.

Royal Northern Hospital, Holloway, N.—Anæsth. £10 10*s.*

St. Mary's Hospital, W.—Cas. H.S. at rate of £100.

Sudan Government, Wellcome Tropical Research Labs., Khartoum.—Asst. Bacteriologist. £720.

Sudan Medical Service.—Medical Inspectors. £.E.720.

West End Hospital for Nervous Diseases, Gloucester Gate, Regent's Park, N.W.—Sen. H.P. at rate of £150.

The Chief Inspector of Factories, Home Office, London, S.W., announces a vacant appointment for Certifying Factory Surgeons at Wrotham, Kent.

Births, Marriages, and Deaths.

BIRTHS.

COLLINGWOOD.—On July 26th, at Marlborough-hill, N.W., the wife of Prof. B. J. Collingwood, O.B.E., M.D., of a son.

DOUTHWAITE.—On July 21st, at "Carlingford," Worthing, Sussex, the wife of Dr. A. H. Douthwaite, of a daughter.

HAMMOND.—On July 23rd, at "Penmorva," Harrow Weald, to Norah, wife of A. G. Hammond, M.R.C.S., L.R.C.P.—a daughter.

NIXON.—On July 25th, at 7, Lansdown-place, Clifton, to Doreen G. C. Nixon, M.R.C.S., L.R.C.P., wife of Dr. J. A. Nixon, a son (Gervase John Mapletoft), who only lived an hour, and a daughter.

RANKIN.—On July 24th, at Shubra, Boxmoor, Herts, the wife of T. Thomson Rankin, M.D., of a daughter.

MARRIAGES.

REYNOLDS—STEELE.—On July 22nd, at St. Paul's, Knightsbridge, Captain William Leonard Eliot Reynolds, M.C., R.A.M.C., to Margaret Joan Pattison, only daughter of Mr. and Mrs. W. R. Steele, of Farnham.

DEATHS.

BEATON.—On July 21st, at Highbury New Park, N., after a short illness, Robert Milne Beaton, M.B., C.M., J.P., aged 71.

BOWEN-HOGG.—On July 24th, at Stranraer, St. Peter's-road, St. Margaret's-on-Thames, Richard Bowen-Hogg, M.R.C.S., in his 79th year.

HENDRIKS.—On July 17th, at Bicester, Oxon, after a short illness from septic poisoning, Cecil Morgan Hendriks, O.B.E., M.B., M.R.C.S., in his 70th year.

RUDDUCK.—On July 22nd, at West Mersea, Essex, John Burton Rudduck, M.R.C.S., L.R.C.P., late of Assam and Morocco, aged 72 years. Husband of M. M. Perston Taylor, late of Palestine and Morocco. Buried at West Mersea, July 25th.

WATSON.—On July 22nd, at North Bar Within, Beverley, of pneumonia, Walter Geoffrey Watson, B.A. Camb., M.R.C.S., L.R.C.P., in his 39th year.

N.B.—A fee of 7s. 6d. is charged for the insertion of Notices of Births, Marriages, and Deaths.

INDEX TO "THE LANCET," VOL. I., 1925.

THE Index and Title-page to Vol. I., 1925, which was completed with the issue of June 27th, will shortly be published. A copy will be sent gratis to subscribers on receipt of a post-card addressed to the Manager of THE LANCET, 1, Bedford-street, Strand, W.C. 2.

THE LANCET: SUBSCRIPTION RATES.

INLAND	One Year	£2 2 0
	Six Months	1 1 0
	Three Months	0 10 6
ABROAD	One Year	2 10 0
	Six Months	1 5 0
	Three Months	0 12 6

Subscriptions not paid in advance are charged out at the published price of 1*s.* per copy, plus postage. Cheques and P.O.'s (crossed "Westminster Bank, Ltd., Covent Garden Branch") should be made payable to THE MANAGER, THE LANCET Offices, 423, Strand, London, W.C. 2.

SMALL ADVERTISEMENT RATES.

Appointments (Public) Vacant	Four lines and under, 6*s.*
Asylums and Homes	
Hotels, Boarding Houses, and Baths ..	
Books and Publications	
Houses and Estates Wanted and for Sale.	
Schools, Medical and Preparatory ..	
Nursing Institutes	Each additional line, 1*s.* 6*d.*
Financial, Official, and other Announcements	
Tutors and Tutorships	
Trade and Miscellaneous	
Practices and Partnerships	
Situations Vacant and Wanted	

For complete scale of advertisement charges apply to the Manager.

Notes, Comments, and Abstracts.

POISONING BY SHOE DYES.

CASES of poisoning by anilin and nitrobenzene used in the various dyes for staining boots and shoes have not received much attention in this country, possibly because of their very rare occurrence, but the symptoms produced are alarming and may even prove fatal; hence a knowledge of this form of poisoning is necessary. Dr. C. W. Muehlberger has collected 47 cases from the literature and added nine recent cases occurring in America to form an interesting review of the whole subject.[1] Cases of poisoning following the splashing of anilin or nitrobenzene on the skin have been recorded, painters using anilin-containing paint have been affected and certain cosmetic preparations for the hair containing this substance have also been known to give rise to dangerous symptoms. Even the anilin used to put a laundry mark on diapers has been known to produce effects in infants. Despite the fact that there appears to be some uncertainty about the toxic action of anilin and nitrobenzene, Dr. Muehlberger states categorically that even when perfectly pure these substances are intensely toxic and can be absorbed through the unbroken skin. The symptoms produced come on insidiously within a few hours of the wearing of the shoes stained with these products and consist of an intense cyanosis, often first noticed by the patient's friends, followed by collapse with weakness, dizziness, headache, and vomiting. If the patient be put to bed and the offending footwear removed, recovery usually takes place fairly rapidly, and no other treatment is necessary. At least one fatal case, however, has been recorded in which the autopsy findings showed that the liver was in a condition resembling acute yellow atrophy. Animal experiments have shown that anilin especially attacks the conducting tissues of the heart, giving rise to heart-block and various disorders of rhythm. In no case was methæmoglobin found in the blood although the cyanosis occurring in these cases is frequently ascribed to this cause. Chemical analysis of one particular brand of black shoe dye, known to have caused five out of the nine cases of poisoning reported in this paper, showed that it contained over 40 per cent. of anilin, and the only way to prevent the occurrence of these distressing cases seems to be the prohibition of the use of this substance and nitrobenzene in the manufacture of shoe dyes. Research as to suitable substitutes for these solvents for pigments which shall be non-toxic is said to be proceeding. Even these toxic dyes could be prevented, however, from producing ill-effects if the shoes thus treated were allowed to stand for 24 hours before being worn and if the custom of staining shoes "while you wait" on a person's feet, which appears to be common in America, were discontinued.

HEALTH CONDITIONS IN HONG-KONG.

A REPORT for 1923 gives the estimated population of the colony, including New Kowloon and the new territories, as 681,800, of whom 15,000 are non-Chinese. The birth-rate for the year was 6·97 per 1000 among the Chinese community (but this figure is wholly misleading, as it is impossible to register more than a portion of the births) and 23·03 per 1000 among the non-Chinese community, as compared with 6·25 and 22·84 for 1922. Deaths from malaria numbered 674. The deaths from plague were 136, as compared with 1071 in 1922. Small-pox deaths numbered 1141, of which all but 9 were Chinese. There were 4317 deaths from respiratory diseases other than pulmonary tuberculosis, as compared with 4863 in 1921, and 35 of these were among the non-Chinese community. Pulmonary tuberculosis claimed 1472 Chinese and 31 non-Chinese victims, whilst other forms of tuberculosis represent an additional 605 deaths, making a total of 2108, or 15·36 per cent. of the total deaths among the community. Beri-beri was responsible for 1270 deaths, as compared with 892 during 1922 and 526 in 1921. In the civil hospital, which contains 170 beds in 21 wards, 5455 in-patients and 28,297 out-patients were treated during 1923.

The total cases of malaria for all Government hospitals and the Tung Wa Hospital showed an increase of 166 cases, as compared with the year 1922. In the Tung Wa Hospital only Chinese are treated, but European as well as Chinese methods of treatment are employed in accordance with the wishes expressed by the patients or their friends. The lunatic asylum is under the direction of the superintendent of the Civil Hospital. European and Chinese patients are separated, the European portion containing 14 beds and the Chinese 16. 309 patients of all races were treated during 1923, and there were 3 deaths.

Incorporated in 1911, the University of Hong-Kong is a residential university for students of both sexes for the promotion of arts, science, and learning, the provision of higher education, the development and formation of the character of students of all races, nationalities, and creeds. The university includes the three faculties of medicine, engineering, and arts. The Faculty of Medicine provides a five-year course of study in the usual pre-medical and medical sciences, supplemented by clinical work in the Government Civil and Tung Wa Hospitals, leading to the degrees of M.B., B.S. The degrees of M.D. and M.S. may be obtained for post-graduate work. The degrees above mentioned are recognised by the General Medical Council for registration in Great Britain. With a view to better securing the maintenance of the desired standard—which in the Faculty of Medicine is that of an English university degree—external examiners are, in all faculties, associated with the internal examiners in all annual and final examinations. In the main buildings are housed the chemical, physical, and biological laboratories. Special medical buildings include schools of anatomy, physiology, pathology, and tropical medicine, erected at the cost of Chinese gentlemen resident in the colony.

[1] Jour. Amer. Med. Assoc., June 27th, 1925, p. 1987.

AN IMPROVED CYCLE SADDLE.

OUR attention has been called to a cycle saddle made by Leatheries, Ltd. (Sampson-road North, Birmingham), at the suggestion of "Kuklos," cycling editor of the *Daily News*. The saddle, which viewed from above has the ordinary contour, is longitudinally divided into two saddles the width of the opening or slot being adjustable at either end. The object of the saddle is to prevent friction or perineal pressure, and the construction should prove useful to patients suffering from hæmorrhoids or after operations involving the perineal region. We are informed that a cyclist weighing 14 stone whose prostate was removed used the saddle for some months with comfort.

SOCIAL ORIGIN OF PROSTITUTES IN MOSCOW.

INQUIRY was made recently in Moscow into the social origin of prostitutes. As the inquiry had nothing to do with the police, and no names were asked for, it was considered that considerable reliance could be placed upon the answers—with one exception, those relating to venereal disease. This was universally denied, a state of things, of course, much too good to be true. S. Weissenberg summarises the replies in the *Zeitschrift für Sexualwissenschaft* for July. 642 satisfactorily completed questionnaires were obtained, the results of which were compared with those of an enquête at Kiev in 1913 on 236 registered prostitutes. Of the latter domestic servants formed 44 per cent., hotel employees 12 per cent., shop assistants 8 per cent., factory hands 6 per cent., only 10 per cent. coming from other social strata. Thus the very large majority was from the lower classes. The same phenomenon appeared, though to a less extent in the Moscow investigation, 60 per cent. of the subjects being of proletarian origin. Domestic servants were only 22 per cent., thus half the former proportion, but this, independently of the variations to be expected with small numbers, could be wholly accounted for by the diminution in the total population of domestics between 1913 and 1925. This factor allowed for, they recruited the ranks of prostitutes to a greater proportional degree than formerly. In the minority were women of origins not previously met with and not always exactly stated; thus "daughter of a high official," "widow of a governor," "noblewoman," "countess," and so forth. The contingent from the nobility and land-owning classes amounted to 5 per cent., as also did those from the ranks of teachers and nurses. It is reasonable to suppose that the upset due to the revolution, with its exalting of the working class and humbling of their superiors, may have had a good deal to do with this modification of the social composition and personnel of prostitution. What also appears evident, thinks the author, is that social conditions cannot take all the blame of prostitution, which attracts those of a particular disposition.

HEDONAL.

To the Editor of THE LANCET.

SIR,—Will any of your readers say whether any experimental laboratory work has been carried out in this country with hedonal intravenously or otherwise in animals?

I am, Sir, yours faithfully,

Glasgow, July 20th, 1925. JOHN DONALD.

Corrigenda.—In our account last week of the Ophthalmological Convention (p. 203) some remarks by Colonel A. E. J. Lister, I.M.S., on cataract, were wrongly attributed to Sir William Lister. In Mr. D. V. Giri's remarks, reported on the same page, the word "hypermetropic" should read "hypermature."